

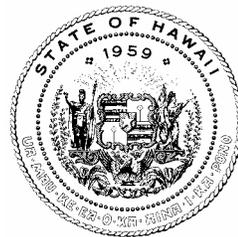
Environmental Assessment NOS Kīhei Facility Project

**Final Report
October 5, 2004**

**Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Service
National Marine Sanctuary Program**

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NATIONAL MARINE
SANCTUARIES™

HAWAIIAN ISLANDS
HUMPBACK WHALE

EXECUTIVE SUMMARY

Pursuant to the National Environmental Policy Act (NEPA) (Title 42 U.S. Code [USC] Section 4321 et seq.) and National Oceanic Atmospheric Administration (NOAA) Administrative Order (NAO) 216-6, the Department of Commerce (DOC) NOAA has prepared this Environmental Assessment (EA) for the proposed construction of a multi-purpose building and connected actions at the Hawaiian Islands Humpback Whale National Marine Sanctuary (HIHWNMS) Headquarters office in Kīhei, Maui, Hawai‘i. The HIHWNMS office is located on 0.457 hectares [1.13 acres] and presently contains four buildings on-site. NOAA has determined that in order for the HIHWNMS to continue to meet its present and future programmatic needs, facility improvements including a multi-purpose building that will provide office, teaching, meeting, and storage space are necessary.

The Proposed Action involves demolition and removal of two antiquated storage buildings, construction of a new multi-purpose building, installation of a new parking lot, site landscaping including creation of an outdoor courtyard, and the installation of service utilities (see Section 2). The need for the Proposed Action was investigated following recommendations developed during the planning stage referred to as PHASE ONE – PLANNING of the Project Development, Approval, and Management (PDAM) process carried out by NOAA. As part of PHASE TWO – SCOPING of the PDAM process, NOAA is conducting an Environmental Assessment (EA). It was determined during PHASE TWO that, due to the limited size of the NOAA property, budgetary constraints, and the lack of excess federal lands offsite on Maui, the EA would evaluate two alternatives—the Proposed Action and the No Action Alternative.

This EA identifies the purpose and need of the Proposed and Alternative Actions (see Section 1). It describes the Affected Environment by addressing the following factors: physical, biological, economic, and social (see Section 3). Under each factor, numerous resource areas were identified and described in their existing condition. For each of the resource areas, the Environmental Consequences that would likely result from the implementation of the Proposed Action were described along with the Mitigation Measures for the environmental consequences (see Section 4). During preparation of this EA several major issues were identified. These include: the possibility that the area may contain cultural resources, disturbance and damage to sand dunes; and the increase in vehicle traffic and related parking issues resulting from increased facilities.

It was determined by this environmental analysis that the Proposed Action would not result in any significant impacts to the environment, and a Finding of No Significant Impact is appropriate. Thus, an Environmental Impact Statement is not required (see Section 5).

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ACRONYMS

| | |
|---------|--|
| AASHTO | American Association of State Highway and Transportation Officials |
| CEQ | Council on Environmental Quality |
| CZM | Coastal Zone Management |
| DBEDT | Department of Business, Economic Development and Tourism |
| DLNR | Department of Land and Natural Resources |
| DOC | Department of Commerce |
| EA | Environmental Assessment |
| EIS | Environmental Impact Statement |
| EPA | Environmental Protection Agency |
| FONSI | Finding Of No Significant Impact |
| HINMSA | Hawaiian Islands National Marine Sanctuary Act |
| HIHWNMS | Hawaiian Islands Humpback Whale National Marine Sanctuary |
| KFP | Kīhei Facility Project |
| KMCP | Kīhei-Makena Community Plan |
| LOS | Level of Service |
| MOU | Memorandum of Understanding |
| NAO | NOAA Administrative Order |
| NBS | National Bureau of Standards |
| NEPA | National Environmental Policy Act |
| NESDIS | National Environmental Satellite, Data and Information Services |
| NMFS | National Marine Fisheries Service |
| NMSP | National Marine Sanctuary Program |
| NOAA | National Oceanic and Atmospheric Administration |
| NOS | National Ocean Service |
| PDAM | Project Development, Approval, and Management |
| SAC | Sanctuary Advisory Council |
| SHPO | State Historic Preservation Office |
| UBC | Uniform Building Code |
| USCG | U.S. Coast Guard |
| USFWS | U.S. Fish and Wildlife Service |
| WWVH | Standard radio signal frequency system |

1.0 PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

The U.S. Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), and the National Ocean Service (NOS), a line office within NOAA, propose to update its facilities for the Hawaiian Islands Humpback Whale National Marine Sanctuary (hereafter referred to as the Sanctuary). The Sanctuary has offices on Kaua‘i, O‘ahu, and Maui, however, this project is limited to the existing facility located in Kīhei, Maui, Hawai‘i.

The purpose of the proposed Kīhei Facility Project (KFP) is to enhance the ability of NOS to meet its increasing responsibilities in Hawai‘i. (See Section 1.3 for further discussion of NOS mission, and Section 1.5 for a discussion of the need for the project). The project is being developed as a pilot project through the following five-phase Project Development, Approval, and Management (PDAM) process:

1. *PHASE ONE – PLANNING*. Phase One is already completed. It consisted of defining the agency’s mission and identifying the functions needed to achieve that mission; developing a facility master plan to accommodate the needed functions; identifying alternatives; and preparing initial cost estimates.
2. *PHASE TWO – SCOPING*. This phase is currently underway. It consists of conducting four interrelated and interdependent analyses—technical, environmental, economic, and programmatic—on all reasonable alternatives, in order to determine the best course of action. The technical analysis consists of several predesign activities such as a conducting a geotechnical investigation, developing conceptual designs, and updating cost estimates. The environmental analysis consists of preparing an Environmental Assessment (EA) and/or an environmental impact statement (EIS), as required by NOAA Administrative Order (NAO) 216-6, Environmental Procedures for Implementing the National Environmental Policy Act (NEPA). The economic analysis consists of a computer-based evaluation of costs and benefits of each alternative. And finally, the programmatic analysis is an overall evaluation of the alternatives to determine the relative effectiveness of each in accomplishing the agency’s mission.
3. *PHASE THREE – DESIGN*. Phase Three includes schematic design and design development, as well as preparation of construction documents. More detailed cost estimates will be developed during this phase, in preparation for soliciting bids for construction.
4. *PHASE FOUR – CONSTRUCTION*. Phase Four consists of procuring a construction contractor, and constructing, inspecting, and accepting the facility.
5. *PHASE FIVE – OCCUPANCY*. During Phase Five, the new facility will be occupied, a post-occupancy evaluation will occur, and normal day-to-day operations and management activities will begin.

This Environmental Assessment (EA) describes, analyses, and discloses the environmental impacts of Proposed and Alternative Actions for the proposed implementation of the *Facility Master Plan Report* (with revisions) at the Sanctuary in Kīhei, Maui, Hawai‘i (see Figure 1).

This EA was prepared pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 *et. seq.*), Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR, Parts 1500-1508), and NOAA Administrative Order (NAO) 216-6.

1.2 PROJECT LOCATION

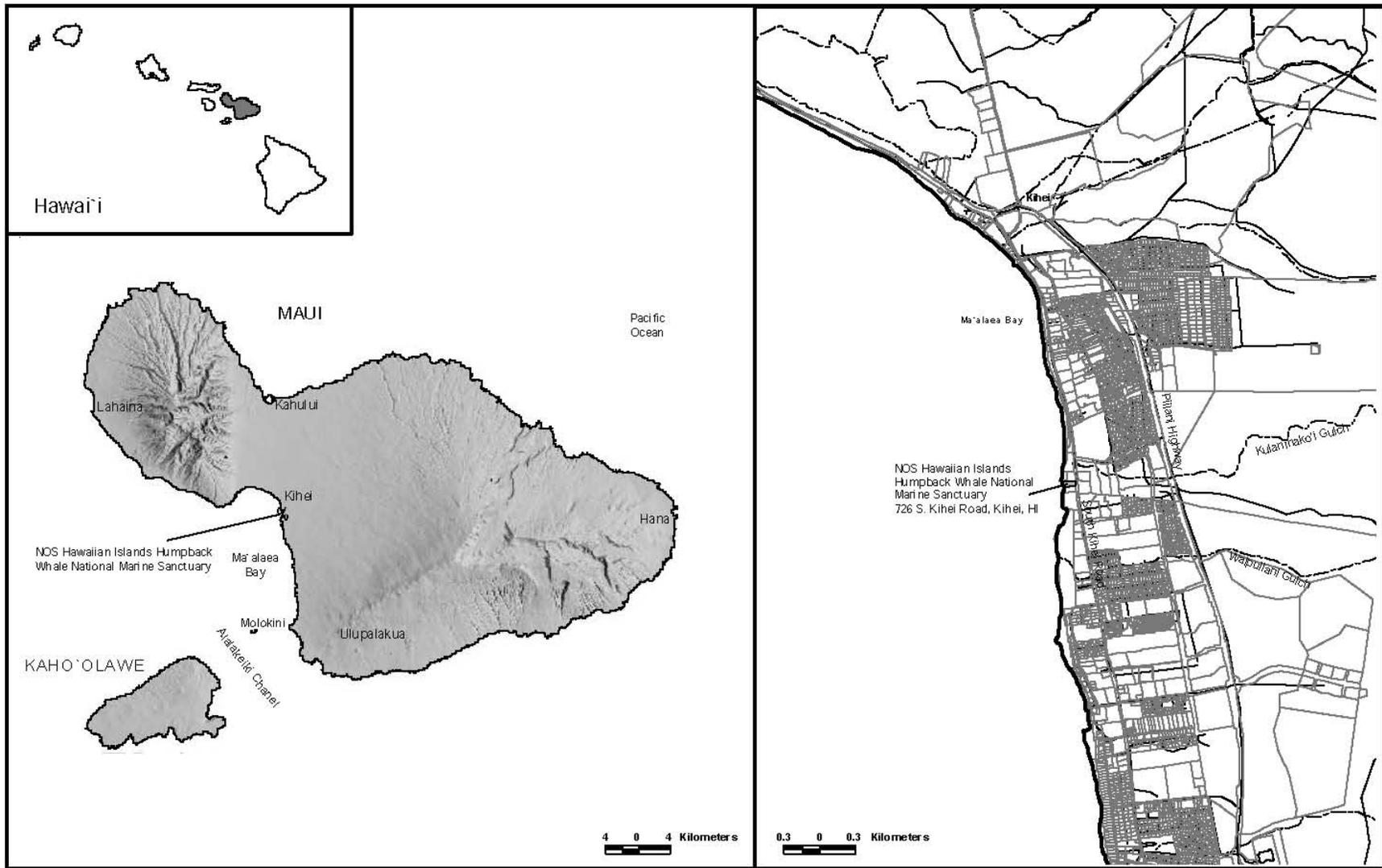
Although the Hawaiian Islands Humpback Whale National Marine Sanctuary (HIHWNMS) itself covers an area of about 3626 square kilometers [1400 square miles] in the waters of the Main Hawaiian Islands, this project is located on a land-based parcel that houses the Sanctuary’s Maui headquarters. The headquarters are located at 726 South Kīhei Road in Kīhei, Maui, Hawai‘i, on property owned by the National Oceanic and Atmospheric Administration (NOAA). The NOS Kīhei Sanctuary property is located within TMK (2) 3-9-01:87 on Lot 2-2 and occupies 0.457 hectares [1.13 acres] or 4572.9 m² [49,223 ft²]. The waters off the coast at this location are part of the Sanctuary.¹

1.2.1 NOS KĪHEI FACILITY BACKGROUND

The NOS Kīhei Sanctuary headquarters property was developed in 1940 for use by the U.S. Navy for classified activities. The first buildings consisted of the main three-story building and the garage (now storage building). In the mid-1950s a generator shed (now small storage shed) and electronics building (now Education Center) were added. In 1971 NOAA’s National Environmental Satellite, Data and Information Services (NESDIS) Ionosphere Station was established on the site. The NESDIS project continued until 1994 when the facility was acquired by NOS from NOAA’s National Geophysical Data Center in various degrees of disrepair and deferred maintenance. See Sections 3.2.2 and 3.2.8 for additional detail on property history.

¹ The Sanctuary is actually a series of five noncontiguous marine protected areas distributed across the main Hawaiian Islands. The total area of the Sanctuary is about 3,626 square kilometers [1,400 square miles]. Encompassing about half of the total Sanctuary area, the largest contiguous portion of the Sanctuary is delineated around Maui, Lana‘i, and Moloka‘i. The four smaller portions are located off the north shore of Kaua‘i, off Hawai‘i’s Kona coast, and off the north and southeast coasts of O‘ahu. The waters around the main Hawaiian Islands of Kaua‘i, O‘ahu, Hawai‘i, Maui, Moloka‘i, Lāna‘i, and Kaho‘olawe constitute one of the world’s most important North Pacific humpback whale (*Megaptera novaeangliae*) habitats and the only place in the U.S. where humpbacks reproduce (NMSP 2002).

Figure 1. Site Location Map: NOS Hawaiian Islands Humpback Whale National Marine Sanctuary, Kīhei, Maui, Hawai‘i



The Sanctuary is interested in developing and securing the utility of the site for current and future program needs. Since NOS's acquisition of the property, a combination of staff and community volunteers have addressed many of the deferred maintenance items and have made significant improvements to the facility. More recently, the Sanctuary is concerned about the long-term needs for the facility (e.g., relieve existing overcrowding, additional staff, modern facility for conducting seminars and community outreach). As a result, NOS, and its parent organization NOAA, commissioned a simplified *Facility Master Plan Report* to determine the Sanctuary's long-range requirements (i.e., ten-year horizon) for the facility (API 2000). The recommendations from that report form the basis for the Proposed Action analyzed in this EA.

1.3 MISSION AND VISION

1.3.1 NOS MISSION

The stated mission of NOS is: "To be the Nation's principal advocate for coastal and ocean stewardship through partnerships at all levels. To support and provide the science, information, management, and leadership necessary to balance the environmental and economic well-being of the Nation's coastal resources and communities" (NOS 1998).

1.3.2 SANCTUARY MISSION

The Hawaiian Islands Humpback Whale National Marine Sanctuary was congressionally designated by the Hawaiian Islands National Marine Sanctuary Act (HINMSA) on November 4, 1992 (Subtitle C of Public Law 102-587, the Oceans Act of 1992).

Section 2304 of the HINMSA identifies the Sanctuary's purposes as follows:

- to protect humpback whales and their habitat within the sanctuary;
- to educate and interpret for the public the relationship of humpback whales and the Hawaiian Islands marine environment;
- to manage human uses of the sanctuary consistent with the Hawaiian Islands National Marine Sanctuary Act and the National Marine Sanctuary Act; and
- to provide for the identification of marine resources and ecosystems of national significance for possible inclusion in the sanctuary.

The mission of the Sanctuary program is to protect the humpback whale and its habitat, through education, research, and interpretive enforcement. In practice, mission-related activities are carried out by Sanctuary staff in offices on Maui (the headquarters), O'ahu, and Kaua'i. In addition, the State of Hawai'i works out of an office on O'ahu.

1.3.3 SANCTUARY VISION

The Sanctuary works collaboratively to sustain a safe and healthy habitat for the North Pacific stock of humpback whales (*koholā*). As a community of ocean stewards, the Sanctuary strives to achieve a balance of appropriate uses, inspired care taking, enlightened understanding, and effective education to ensure the continued presence of the *koholā* for future generations. The Sanctuary endeavors to do this with harmony, hope, respect, and *aloha o ke kai* (love of the sea) (NMSP 2002).

1.4 PROPOSED ACTION

The Proposed Action is the implementation of the *Facility Master Plan Report* (API 2000), with some recent revisions,² to better enable the Sanctuary in meeting its long-term needs. The *Facility Master Plan Report* outlined the development of the site over a period of ten years in three separate phases—each with its own timeline. The most significant activity occurs in the initial phase with the construction of a new on-site multi-purpose building.

1.5 PROJECT NEED

The Sanctuary maintains a headquarters on NOAA property in Kīhei, Maui, Hawai‘i. In addition, the Sanctuary has site offices on the islands of O‘ahu and Kaua‘i. The presence of resident Sanctuary staff on these islands has nurtured strong community-based networks of volunteers, partnerships, and support. The Sanctuary’s presence on the Big Island of Hawai‘i has been maintained by staff from other islands, Big Island-based Sanctuary Advisory Council members, and volunteers (NMSP 2002).

The *Facility Master Plan Report* for the Sanctuary headquarters was completed in October 2000, and updated in September 2001 and May 2002 (API 2000, API 2001, API 2002). The Master Plan documented the current and projected facility needs for the Maui Sanctuary offices—in terms of personnel, programs and activities, buildings, site conditions, and government regulations. The planning process resulted in a spatial program for a new multi-purpose building along with a phasing plan to implement other improvements (expansion and renovation) to the existing facilities. The *Facility Master Plan Report* includes three phases over a period of ten years. By stretching the development over this time period, the Sanctuary will be able to meet and sustain the goals and objectives of the Hawaiian Islands Humpback Whale National Marine Sanctuary, including facility improvements.

The phases identified in the *Facility Master Plan Report* include *Phase I*: construction of a new multi-purpose building (Years 1-4); *Phase II*: renovation of main building (Years 5-8); and *Phase III*: site enhancements (Years 8-10). The first phase addresses the most immediate needs of the Sanctuary, including the construction of a new multi-purpose building to help meet the growing needs of the Education Program. Along with a large room that can accommodate 101 people (e.g., school groups, public lectures), the building will also include additional office space, storage space, and improved working conditions to address other facility deficiencies. Phase II was described as renovation of the main building to improve office/administrative space and create additional exhibit space. These

² The revisions include the *Main Building Renovation Alternatives Study* dated September 2001 and the *Facility Requirements Update Report* dated May 2002.

renovations have been on-going, and will eventually involve relocation of administrative functions previously housed the main building to the new multi-purpose building and the addition of exhibits. Phase III details site enhancements aimed at unifying the new building and the renovated areas. With activities such as lectures, classroom sessions, and visitor orientation relocated to the multi-purpose building, the Education Center can become an exhibit and display oriented space. This phase includes the construction of an outdoor courtyard or gathering space in the area defined by buildings on three sides. Native landscaping, open space, and benches will encourage use as visitors circulate through the buildings and the site.

These long-range requirements (Phase I – Phase III of the *Facility Master Plan Report*) are supported by the Sanctuary’s Management Plan (NMSP 2002). The Sanctuary’s current Management Plan (NMSP 2002) identifies a need, as part of the Administration Action Plan (AD-5), to ‘Augment the Physical Infrastructure of the Sanctuary’. This strategy addresses Objective 6.2 of the Management Plan, to maintain and develop additional facilities and equipment. Implementation of Maui’s ten-year facilities upgrade plan is an identified possible project. The Management Plan notes that building new or renovating existing facilities will be dependent upon NMSP appropriations and the Sanctuary’s annual budget allocation. The Sanctuary headquarters recently received funding to pursue design and construction of the multi-purpose building identified in Scenario 2 of the Facilities Requirement Update Report (API 2002). The facility improvements described in the Master Plan are aimed at increasing the capabilities of the Sanctuary to support its mission and vision (see Section 1.3) and conduct activities in its program areas (see Section 1.6).

1.6 SANCTUARY ACTIVITIES

The State of the Sanctuary Report (NOAA 2001) assesses the Sanctuary’s performance in six key areas of activity, fundamental to the Sanctuary’s primary goal of resource protection. These areas include: Education and Outreach; Native Hawaiian Culture; Enforcement; Inter-Agency Cooperation; Social Impacts; and Research. Activity in each of these areas is conducted at the Maui Sanctuary headquarters. The text in the following subsections has been reproduced from the *Sanctuary Management Plan* (NMSP 2002) in order to provide a brief overview of sanctuary activities. The Proposed Action—implementation of the *Facility Master Plan Report* including renovation of existing facilities and construction of a new multi-purpose building on-site—is being pursued in direct support of the Sanctuary activities.

Education and Outreach

The Sanctuary uses education to promote ocean stewardship in the community. Since designation, it has developed many products and activities aimed at providing individuals with information necessary to make decisions that will effectively contribute to protecting humpback whales and their habitat in Hawaiian waters. Sanctuary education emphasizes three main themes: 1) understanding humpback whale biology and behavior, and developing an appreciation for scientific and cultural perspectives that explain the history and significance of the humpback species; 2) awareness of the National Marine Sanctuary Program (NMSP) and its potential for providing the community with opportunities for taking action to increase marine conservation; and 3) understanding impacts resulting from human and natural causes on marine resources within the Hawaiian humpback whale habitat.

To further education, the Sanctuary has cultivated its headquarters on Maui as a center where ideas on resource protection can be discussed and explored on an informal basis. Located on the beach in a popular tourist town, the headquarters is a scenic magnet for visitors from around the world. The Sanctuary has enhanced the setting's natural assets by installing interpretive signage, cultivating a coastal garden of native Hawaiian plants, and facilitating shoreline observation of humpbacks during the winter season with a viewing deck and view scopes.

The headquarters has heightened the visibility of Sanctuary programs and provided both a "living classroom" and a nexus for volunteers from the neighborhood community. In a joint undertaking of staff and volunteers, a Sanctuary Education Center was designed and developed and became fully operational on the grounds of the headquarters in 1998. The center houses displays, videos, and books on the cultural and biological significance of the humpback whale and provides education in several aspects of the Hawaiian marine environment. The center is also a dissemination point for free brochures on NOAA and the NMSP. A core group of nearly 75 volunteers has undergone training and shares the duties of operating the center and providing informal docent services for visitors upon request.

In fiscal year 2002, more than 7,000 people visited the Sanctuary headquarters, with the peak in visitor numbers occurring during the winter "whale season." The ever-increasing flow of visitors prompted the hiring of a part-time employee to manage the Sanctuary Education Center during regularly scheduled weekday hours. The center is also the location for a monthly lecture series, offering presentations by experts on themes relating to cultural and scientific perspectives on the humpback whales and marine research. The cordial atmosphere of Sanctuary headquarters and the wide range of educational and entertaining activities it offers continue to rank as an unequivocal achievement that has enabled the Sanctuary to establish its identity as a source of marine education in the community.

To assist in developing curricula on humpback whales within Hawai'i's schools, the Sanctuary has fortified partnerships with several educational institutions and provided teaching tools for instruction in cetacean science and marine stewardship. Examples of productive collaborations include the Sanctuary's partnership with the Hawai'i Department of Education's interactive science television series, entitled Kidscience, the creation of positions for college interns under the University of Hawai'i's Marine Options Program, sponsorship of Careers on the Water Day with Farrington High School, and the installation of a permanent exhibit on humpback whale biology in the Kaua'i Children's Museum. In an effort to step up outreach throughout the Islands, the Sanctuary staff has participated in many public events such as fairs that provide a venue for staff members to interact with diverse groups of people.

The Sanctuary has also found it productive to establish key "signature" events where Sanctuary education is clearly a focus of activity. The Sanctuary Ocean Count last year also proved to be quite popular, enlisting the help of more than 1,000 volunteers to participate in an annual census of humpback whales from shoreline locations throughout the state. Both events have received

significant levels of local and national news media coverage, commending the Sanctuary for increasing yearly participation of a diverse island community in ocean education activities.

To enhance understanding of Sanctuary goals and ensure greater participation in programs, the Sanctuary has turned increasingly to news and entertainment media. The agency hired a Public Outreach Coordinator, who has secured coverage for the Sanctuary in print and broadcast media and has enhanced the Sanctuary's relations with numerous writers and reporters. Other media-oriented informational projects include a 20-minute video segment about the Sanctuary aired during incoming flights to Hawai'i on Hawaiian Airlines; a brochure on the Maui Sanctuary site; a general press kit; a public service announcement for television broadcast; and regular press releases on Sanctuary events. In another very important move to engage and inform the public, the Sanctuary, in consultation with NOAA, established a website with comprehensive news and information on resource protection, humpback whales, the Hawaiian habitat, research and development, and the history and future plans of the NMSP (<http://www.hihwnms.nos.noaa.gov/>).

Native Hawaiian Culture

Ocean stewardship is deeply embedded in Native Hawaiian culture. Early Hawaiians developed techniques to manage their ocean resources without depleting them. The Sanctuary has made it a goal to facilitate Native Hawaiian traditional uses of the humpback whale habitat which promise to bolster the primary goals of resource protection. Many of the traditional practices, handed down through generations, survive today. Others, however, were eclipsed at the end of the Hawaiian Kingdom and some even disappeared under the incursion of Western culture. A revival of Hawaiian oceanic traditions is currently underway as part of a broader movement of Hawaiian cultural revitalization. The Sanctuary bolsters this movement by educating the public—Hawaiians and non-Hawaiians alike—about the relevance traditional marine practices have in today's world.

With the help of Native Hawaiian consultants including a Sanctuary Advisory Council representative of Hawaiian affairs, the Sanctuary took the step of researching customs that appear to have contributed to early Hawaiians' harmonious relationship with the ocean. This information includes the following themes: (1) early Hawaiian success with fishpond aquaculture; (2) Hawaiian invention of the *ahupua'a*, a system of social and political order based on watershed or mountain-to-shore management of natural resources; and (3) Hawaiian spiritual or religious reverence for several marine organisms as ancestral guardians known as *'aumakua*. In order to take a more proactive role in highlighting the value of Native Hawaiian ocean stewardship, the Sanctuary hired a Hawaiian Cultural Educator in 1999. This individual, a former Sanctuary intern, made a major contribution to elucidating the cultural value of Sanctuary resources in a paper and pamphlet on the Native Hawaiian significance of the humpback whale, identified in Hawaiian language as the *koholā*. A major achievement of the Hawaiian Cultural Educator consisted of synthesizing a large body of research into a brochure *The Cultural Importance of Whales in Hawai'i* and by incorporating the information in public lectures and a tabletop display created for use at community events such as educational fairs.

Further accomplishments underlining the Sanctuary's commitment to preserving the traditional cultural value of natural resources include: 1) field presentations involving on-site cultural

interpretation of marine resources within Sanctuary boundaries; 2) establishment of partnerships with Native Hawaiian organizations in the community; 3) providing curriculum content for teaching Native Hawaiian perspectives on the humpback whale and marine stewardship; 4) incorporating Native Hawaiian protocols into Sanctuary presentations; and 5) producing Native Hawaiian language translations of Sanctuary educational materials.

Enforcement

Federal and State agencies have authority to enforce regulations arising from the Marine Mammal Protection Act and the Endangered Species Act, which list humpbacks as an endangered species and provide the animals with special legal protection. The Sanctuary does not directly conduct enforcement activities, but it provides several forms of support for the agencies that do so on the Sanctuary's behalf.

In a noteworthy measure, the Sanctuary has for five years provided training, salary, and staff support for a NOAA enforcement officer, based at Sanctuary headquarters for the duration of whale season. The officer receives and investigates complaints of possible instances of whale harassment. The Sanctuary shares with NOAA Enforcement and other agencies an interest in maintaining enforcement of the Federal "approach regulation," which requires that people stay at least 91 m [300 ft] away from humpback whales unless a humpback whale research permit has been obtained. The Sanctuary has worked to reduce the likelihood that this regulation will be violated by cooperating in public education campaigns that describe the negative impacts to whales resulting from human pursuit and harassment. Toward this end, the Sanctuary has jointly sponsored an annual Ocean Users Workshop on four islands and the publication of the *Ocean Users' Handbook* and a regulation reference card for boaters. Additionally, the Sanctuary has supported the National Marine Fisheries Service in their production of a local brochure for the Watchable Wildlife Campaign, which encourages observation of wildlife in a non-intrusive manner.

In another arena of enforcement, the Sanctuary has fortified ties with agencies that have direct jurisdiction in preventing or remediating water quality and seabed degradation. These agencies include the United States Coast Guard, the Environmental Protection Agency, the Hawai'i Division of Conservation and Resources Enforcement, and the Hawai'i Department of Health.

Inter-Agency Cooperation

The more that is learned about the dynamic and interrelated nature of marine ecosystems, the greater the perceived need is to govern the ocean with a cooperative approach that minimizes the constraints of traditional sectoral boundaries of management responsibility and jurisdiction. The Sanctuary implements a collaborative approach to management with the intent of increasing flexibility, mobilizing efficient use of limited staff resources, reducing duplicative services, and increasing opportunities for broad and effective citizen participation. In 1997, NOAA and the State of Hawai'i signed an Intergovernmental Compact of Agreement establishing the framework for an administrative partnership. In accordance with the agreement, the Sanctuary Federal manager routinely consults with the State co-manager, based in the Hawai'i Department of Land and Natural Resources, in the implementation of comprehensive and coordinated management.

The Sanctuary has also made significant strides in constructing a collaborative management framework by increasing the role of the Sanctuary Advisory Council (SAC). A Sanctuary Advisory Coordinator has been hired to coordinate input and training for the 24-member body that represents diverse ocean interests in Sanctuary management. Since 1997, the SAC has established subcommittees made up of members that bring technical expertise to the respective areas of research, education, and conservation—fundamental to the Sanctuary’s primary mission in resource protection.

Social Impacts

The Sanctuary assumes an important role in supporting multiple uses of coastal waters in the nation’s only Island State, where easy access to the ocean is as vital to the well-being of humans as conservation measures are to the continued recovery of humpback whales. Transportation, tourism, commerce, culture, and recreation are inexorably tied to ocean use in Hawai‘i. The Sanctuary has taken steps to cultivate positive social and economic impacts in the community by monitoring negative and positive impacts of ongoing ocean uses and implementing education programs to help ocean users eliminate unacceptable behavior and thus increase their contribution to marine stewardship.

The Sanctuary has implemented a policy of working closely with the whale-watch industry, which not only constitutes an obvious impact on the whale habitat but also comprises the fastest growing sector of Hawai‘i’s ocean industry. In one noteworthy move, the Sanctuary supported a study on the economic impact of humpback whales in Hawai‘i (NOAA 2000). The research estimated direct commercial revenues from the whale watching industry to be worth an annual amount of \$11 million. This information, made available to media, lawmakers, and the general public, underlined a positive material benefit of the whale-watch industry and gave credence to the concept that humpback recovery should be encouraged because it is, at minimum, an economic asset to the local community.

The economic success of the whale-watch industry has also prompted the Sanctuary to institute precautionary measures that reduce the potential for increased whale-watch vessel traffic to hinder other ocean uses or cause harm to natural resources. Among these efforts, the Sanctuary has done the following: (1) established a Sanctuary Advisory Council position for a whale-watch industry representative; (2) designed the annual Ocean Users Workshop to target the needs of the whale-watch industry; and (3) implemented plans for a workshop that will identify ways to reduce collisions between whales and boats in coastal traffic.

The development of the Sanctuary Volunteer Program ranks as another major achievement in community impact and social currency. The Sanctuary has a staff Volunteer Coordinator who recruits and trains volunteers, apprising them of NOAA policies and Sanctuary goals. It’s estimated that a total of 4,500 hours of pro bono services have been donated to the Sanctuary. A core of approximately 75 volunteers maintains regular weekly hours at the Sanctuary, contributing in areas ranging from office chores to the design of educational displays. In anecdotal reports, volunteers credit the Sanctuary for enriching their knowledge and interaction

with the ocean. To put it another way, volunteerism at the Sanctuary embodies a win-win situation and increases a desirable social impact of the Sanctuary program.

Research

Though scientists have made great strides in understanding cetaceans in the last few decades, they are only beginning to effectively understand many aspects of humpback behavior and biology. The Sanctuary makes a great effort to support the continuation of humpback research because it attempts to answer questions about the animal's recovery status and the need to maintain or redouble conservation efforts. The Sanctuary's major contribution to research involves annual awards of grants to teams of scientists engaged in the study of Hawai'i's humpbacks. Between 1993 and 1998, the Sanctuary has contributed funding that has helped in the completion of 22 humpback whale research projects in Hawaiian waters. The Sanctuary also takes an active role in disseminating the findings of research projects to other agencies and to the general public. As a requirement for funding, the Sanctuary asks researchers to produce a manuscript suitable for publication in a technical or peer review journal. In the effort to further the frontiers of cetacean science through the exchange of meaningful ideas, the Sanctuary has assisted in planning efforts for a whale research conference on Maui and also served as the lead sponsor of the 2000 International Marine Debris Conference in Honolulu.

Currently the sanctuary is involved in one of the most comprehensive studies of the North Pacific humpback whales. The structure of Populations, Levels of Abundance and Status of Humpbacks (SPLASH) project is an international cooperative effort to assess the status, trends, and population structure of humpback whales across the entire North Pacific, and identify potential human impacts to this population.

1.7 SCOPING SUMMARY

An interdisciplinary team of natural resource management specialists and environmental scientists from Sustainable Resources Group Int'l, Inc. conducted the site visits, document reviews, interviews, and data analyses necessary to prepare this EA (refer to Sections 7, 8, and 9). The on-site managers at the Sanctuary also contributed to the analysis. Prior to and during the course of the EA, Sanctuary staff conducted issue scoping, which included internal agency correspondence regarding facility needs, Kīhei Facility Project planning with contractors, and dialogue with local community members concerning cultural resource issues.

Between October 2002 and January 2003, the consulting environmental scientists conducted site visits to the Sanctuary headquarters to gather documents and interview personnel regarding the proposed facility improvements. The consultants also conducted follow-up telephone conversations to gather supplementary documentation on the affected environment and potential environmental consequences of implementing the Proposed Action. Contractors performing geotechnical, civil, and structural engineering analysis for this project were consulted in developing the environmental analysis. Agencies consulted include the following: State of Hawai'i Department of Land and Natural Resources, Historic Preservation Division; Maui County Planning Department; Maui County Public Works Department, Development Services Administration; United States Fish and Wildlife Service; National Marine

Fisheries Service; and Hawai'i Coastal Zone Management Program (see Section 8). Persons interviewed and contacted by phone are identified in Section 8. The documents that were reviewed are identified in Section 9.

A list of potential issues was compiled and subsequently condensed into a list of relevant major issues (refer to Section 1.9). The determination of relevance was based on a process of screening that evaluated whether the issue was within the scope of the Proposed Action, whether the issue overlapped with other issues, and whether the issue suggested different actions (or mitigations). The screening also determined whether the issue would influence the decisions to be made about environmental consequences of the actions, and what would be reasonable alternatives to the Proposed Action. Once the relevant issues were identified, comprehensive analysis was initiated, including the evaluation of environmental effects (refer to Section 4).

1.8 MAJOR ISSUES

The scoping process resulted in the following environmental issues relevant to the proposed and alternative facilities proposals:

- the possibility that the area may contain cultural resources;
- disturbance and damage to sand dunes; and
- the increase in vehicle traffic and related parking issues resulting from increased facilities.

Each of these issues has been addressed in the Environmental Consequences section (Section 4), and any potential environmental impacts will be mitigated to reduce those impacts to levels less than significant.

1.9 DECISION NEEDED

Decisions that must be made regarding the material in this document include:

- Whether any significant issues have been raised by the Proposed Action or any of the alternatives;
- Whether the Proposed Action or any of the alternatives would result in significant impact to the environment; and
- Whether NOAA would prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI) in response to this Environmental Assessment.

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

In accordance with the Project Development, Approval and Management process (see Section 1.1), the project team identified the following four potential scenarios to satisfy the facility requirements for the project³:

1. Split Sites Scenario – renovate the existing facilities and acquire additional facilities off-site;
2. New Site Scenario – lease or acquire new property and construct new facilities;
3. Renovate Existing Site Scenario – renovate and construct new facilities on the existing site; and
4. Do Nothing Scenario – no alterations or modifications to the existing facilities.

For the purpose of this EA, the Proposed Action is the implementation of the *Facility Master Plan Report* (API 2000) (with revisions), to enable the Sanctuary to meet its long-term needs. The *Facility Master Plan Report* outlined three phases of site development over a period of ten years. The most significant activity is the construction of a new on-site multi-purpose building in Phase I. Per guidance from NOAA the EA did not analyze alternatives that involved different site plans or building designs (see Section 2.3). The specifics of the building design and construction were instead considered in Section 4, Environmental Consequences, and form the basis for mitigation measures.

2.1 PROPOSED ACTION

The Proposed Action reflects the “Renovate Existing Site Scenario” described as #3 in Section 2.0. The action involves the renovation of existing facilities and the construction of a new multi-purpose building on the existing property to aid in meeting long-term facility needs of the NOS Hawaiian Islands Humpback Whale National Marine Sanctuary headquarters in Kīhei, Maui, Hawai‘i. The building will be designed to meet or exceed where practicable federal energy standards cited in the Federal User’s Manual: Performance Criteria for New Commercial and Multi-Family High Rise Residential Buildings. Connected actions that will also be carried out include site clearing and excavation; installation of water, sewage and electric lines; paving for new parking lots and gathering areas; widening the existing driveway; and landscaping with native plants.

The following is an overview of the logistical and construction activities that will likely occur with implementation of the Proposed Action. The proposed building will cover a surface area of approximately 38.1 m by 11.3 m [125 ft by 37 ft] (430 m² [4625 ft²]) and will be located along the north property line. The building will be aligned east to west along its longest axis, with the front of the building facing south. The back wall of the building will be aligned approximately 3 m [10 ft] in and run parallel to the north property line. The center of the building is located on approximately the halfway point of the east to west property distance or roughly 56.4 m [185 ft] from the east property line. The building will be 9.4 m [31 ft] at its highest point. The two existing storage buildings will be demolished

³ As described in May 16, 2002 Memorandum for the Record from Robert Gries, Subject: Alternative Project Scenarios/Sites.

and removed. Figure 2 depicts the architectural schematic of the proposed multi-purpose building from four vantage points (elevations), and Figure 3 depicts the conceptual plan view of the site layout.

The proposed building will be constructed of wood and will be supported by approximately 46 0.4 m by 12.8 m [16.5 in by 42 ft] concrete pilings. The pilings will occupy a surface area of about 6.2 m² [68 ft²] or 1.5 percent of the area under the building footprint. Geotechnical investigations recommended that driven piles be used to support the building due to the unconsolidated substrate and high water table below the site that could cause liquefaction following earthquakes. The base of these pilings will rest on top of basalt bedrock at an approximate depth of 12.8 m [42 ft] below the ground surface. The building will be elevated above the ground surface so that the floors are located above the base flood elevation of +3.05 m [+10 ft] msl.

The addition of the proposed multi-purpose building to the site and the existing buildings will form a boundary around a central open space. This open area will be utilized as a courtyard or outdoor gathering space. The courtyard will be defined by the new building at the northern end of the site, the Education Center at the south, and a new covered pedestrian path between the Education Center and the multi-purpose building to separate the parking from the new courtyard. Low planter/retaining walls will be installed and double as benches. The roof over the covered pedestrian path will be at a minimum height of 4.27 m [14 ft] to allow vehicular access to the courtyard for loading. A wind screen or air-lock vestibule is designed for the entrance to the Education Center in order to use this door as the main entrance.

A new parking area (Lot A) will be located in the northeast section of the parcel, and the existing parking area (Lot B) along the south property line will be extended to the east. The total number of parking stalls that will be located on-site will meet the zoning requirements set forth by the Maui County Planning Department (MCPD). The existing driveway into the Sanctuary will be widened to 6.7 m [22 ft] in order to bring the driveway into compliance with Uniform Fire Code Article 10 Section 10.207, and to allow for passage between large vehicles (e.g., school buses and other vehicles) entering and leaving the site. Landscaping with native plants will occur along the sides and front property setback strips, as well as in a few interior areas.

A grading plan has not been submitted prior to preparing this EA. It is anticipated that the areas that will contain the new building and parking lots will be graded to the elevation of the existing parking lot. This will require the removal of the sand dune on the parcel that is aligned along the north property line. Vegetation and the irrigation system that currently occupies this area will also be removed.

Figure 2. Architectural Schematic of Proposed Multi-purpose Building. (Architects Pacific, Inc.)

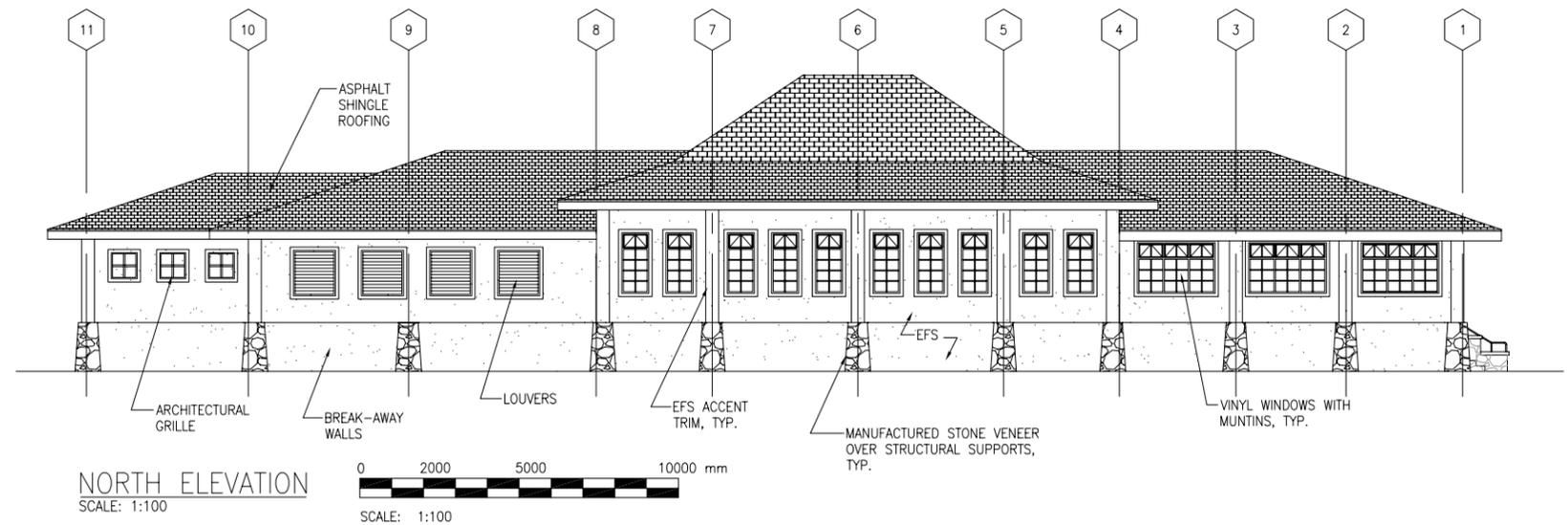
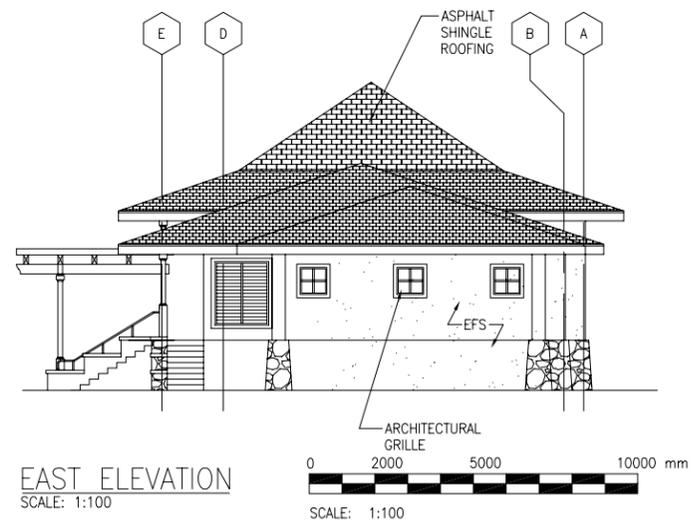
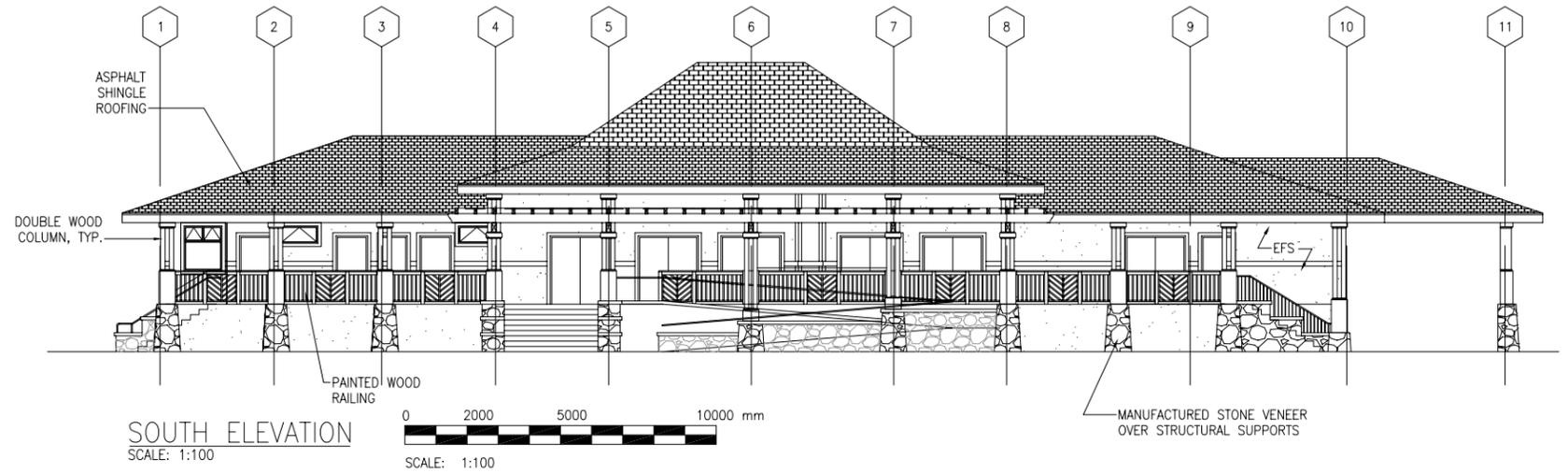
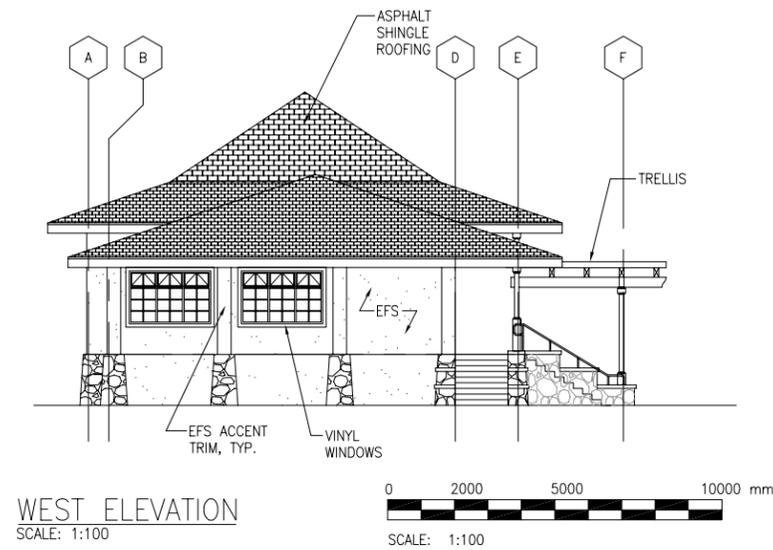
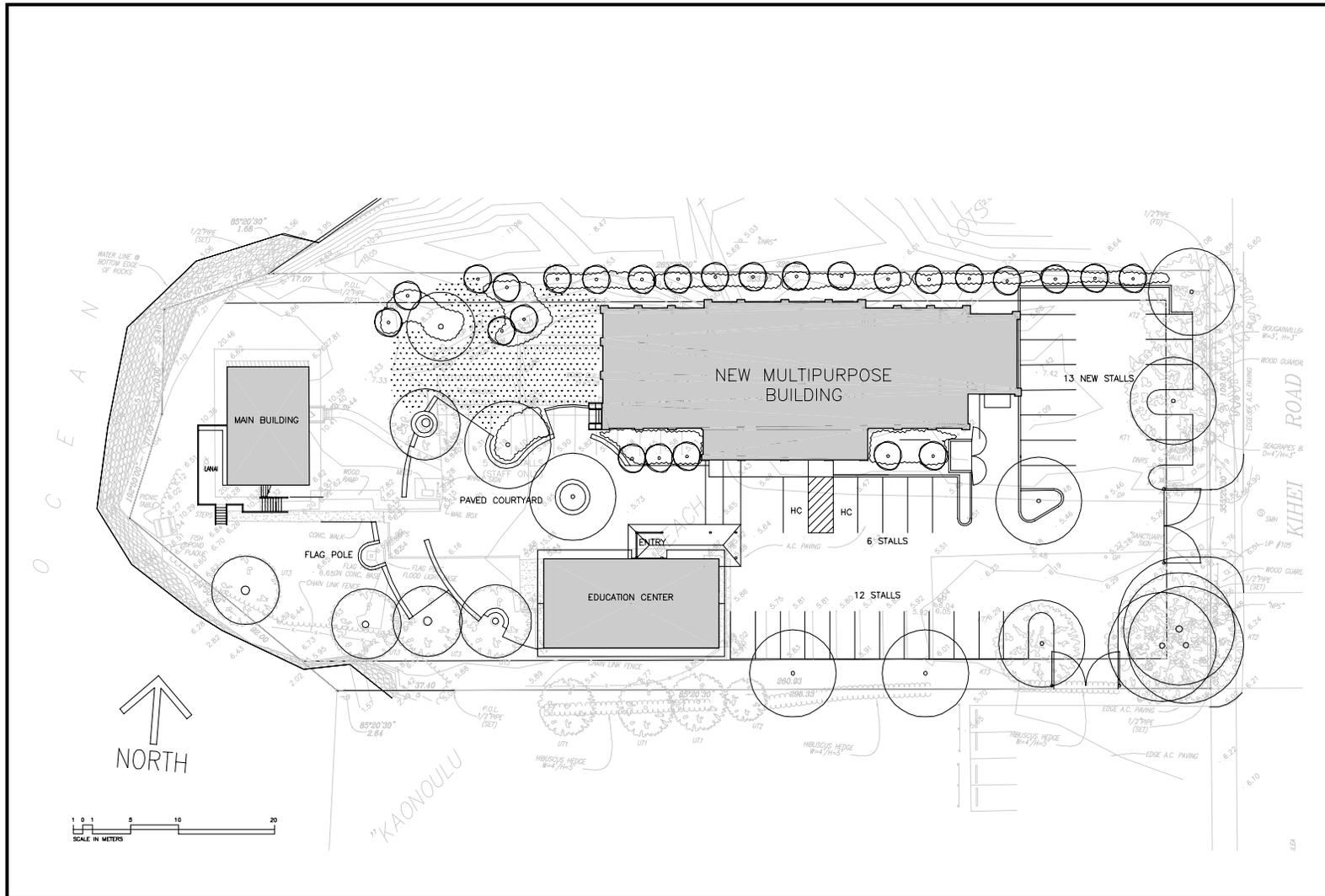


Figure 3. Site Plan of Proposed Multi-purpose Building. (Architects Pacific, Inc.)



Note that circles on figure represent trees or other vegetation.

2.2 NO ACTION ALTERNATIVE

The No Action Alternative is the same as the “Do Nothing Scenario.” Under this Alternative, a new multi-purpose building would not be built and the Sanctuary would continue to operate and utilize existing structures on Sanctuary property. None of the facilities would be renovated, although routine maintenance would continue. Although NOAA has determined that this alternative does not meet long-range facility requirements, it must be considered as an Alternative under the NEPA process.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

Of the four project alternatives originally identified, two were considered but eliminated from further analysis since they could not meet the facility needs as determined by NOAA (Gries, 2002). See Sections 2.3.1 and 2.3.2.

2.3.1 SPLIT SITES SCENARIO

During the earlier PHASE ONE – PLANNING, NOAA evaluated the feasibility of locating the additional Sanctuary requirements at a separate facility. This scenario would have required the Sanctuary staff to conduct program activities both on-site and at an off-site location. Although the off-site location could have been used to hold large-scale program activities (e.g., those needing a meeting space currently not available at the existing site) and would also have met their requirements for storage of materials, this scenario would have created additional burdens on the limited staff, resulting in decreased organizational efficiency and significantly increased operational costs. As a result, the “Split Sites Scenario” was eliminated from further consideration.

2.3.2 NEW SITE SCENARIO

NOAA considered the suitability and cost effectiveness of other sites that might be available for the Sanctuary to expand their facilities. Since moving the Sanctuary activities to an entirely new location would be extremely disruptive, both to the Maui facility and to the overall HIHWNMS program, the search area was limited to the island of Maui. However, the availability of a property to house a new facility is limited, and the cost of suitable real estate would have resulted in land acquisition costs being higher than the projected construction costs. Construction costs would be substantially higher under this alternative due to the lack of existing facilities at a new site and the need to construct an entirely new set of buildings to support the Sanctuary’s activities. Subsequent searches then focused on excess and underutilized federal property, but no viable alternative sites were found. NOAA also considered the option of leasing facilities off-site, but this was rejected due to budget limitations. Consequently, the “New Site Scenario” was eliminated from further consideration.

3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This section describes the affected (baseline) environment at the Sanctuary property, as well as the locations of the Proposed Action and alternatives that are relevant to the potentially significant environmental consequences (Section 4). Information used to describe the affected environment includes government reports and databases, interviews and consultations, contractor reports, historical documents, archeological reports, textbooks, and other sources. Environmental resource areas are organized by general categories: Physical Factors, Biological Factors, Economic Factors, and Social Factors and are arranged in the same order they will be covered in Section 4. All environmental resource areas were considered for this analysis process (according to the Environmental Factors Checklist in Freeman and Jenson 1998: p. 38-41).

3.2 PHYSICAL FACTORS

3.2.1 LOCATION

The Sanctuary's Kīhei property is located along the Kīhei coast in Ka'ono'ulu Ahupua'a, District of Kula in the southwest portion of east Maui, Hawai'i. The 0.457 hectare [1.13 acre] rectangular parcel occupies TMK 3-9-01:87, Lot 2-2 and has a street address of 726 South Kīhei Road, Kīhei, Hawai'i. The parcel is bounded to the south by Kalepolepo Park (Lot 2-1), to the north by a vacant beach park parcel (Lot 2A) called Ka'ono'ulu Beach, both owned by Maui County, to the east by South Kīhei Road and Ma'alaea Bay to the west (see Figure 1). The Sanctuary property occupies an area that is locally referred to as Kalepolepo—the name of the historic village that once occupied the south side of Kō'ie'ie (Kalepolepo) Fishpond. This fishpond is located adjacent to the Sanctuary's Kīhei property in Ma'alaea Bay.

3.2.2 INFRASTRUCTURE AND PROPERTY LAYOUT

Four buildings of various sizes and architectural styles are located on the Sanctuary property. Figures 4 and 5 depict the general layout of the site. The buildings are all located on the western half of the parcel. The primary structure on site is a light blue three-story office/administration building that is centered on the far western edge of the parcel above the shoreline revetment. The building was constructed in 1942 by the US Navy and contains 210 m² [2260 ft²] of space. It is constructed of wood and has had both structural and aesthetic work conducted on it during the past eight years. The building is structurally sound and functions well as an office and administration facility (Cappelle, pers. comm. 2002). This square shaped building rises to approximately 12.8 m [42 ft] at its high point and has a Cape Cod architectural style.

Figure 4. Current Site Photograph: General Layout from South Kihei Road. (SRGII 2002)



Figure 5. Current Site Photograph: General Layout Looking East. (SRGII 2002)



The second largest building on site is the Education Center, which is located along the southern property line 24.4 m [80 ft] southeast of the office building. This building is aligned east to west along its longest axis, has one story, is constructed of concrete, and was built in 1956. It contains 167.2 m² [1800 ft²] of space and was originally built for storing equipment, which is reflected in its style. Murals of marine animals and their environment are painted on its exterior walls, enhancing its aesthetic value.

The other two buildings are located adjacent to each other to the north of the Education Center and east of the office building. These buildings currently serve as storage units for Sanctuary equipment and supplies. The smaller building of these two is located to the west, is concrete, and has about 9.3 m² [100 ft²] of space. The larger of the two is constructed of wood and has 85.4 m² [919 ft²] of space. Murals are also painted on portions of the exterior walls of these two storage sheds.

The Sanctuary has an existing 25 mm [1 inch] water meter that has a capacity of 3.15 liters/sec. (50 gallons/min) and uses water from the Maui County Department of Water. The site is tied into sewer lines running under South Kīhei Road. Currently, a 120/208 volt, 3 phase electric power source is supplied by Maui Electric Company to the Sanctuary. On average, the Sanctuary uses 1480-kilowatt hours (kWh) per month. The Sanctuary also generates an average of 450 kWh per month via an on-site photovoltaic system (approximately 30 percent of monthly use) and sells it back to the electric company. This provides a savings of approximately \$75.00 per month in energy costs (Cappelle, pers. comm.).

There are two existing parking lots on the parcel with 22 stalls. The first lot is located along the south side of the two storage buildings. The second is located east of the education building along the southern property line.

3.2.3 TOPOGRAPHY

The NOS Kīhei property is best described as a long rectangular parcel that measures approximately 112.8 m [370 ft] along its east to west axis and 42.7 m [140 ft] along its north to south axis. Topography of the site is relatively uniform and flat with the exception of sand dunes located within the property along the northern boundary. The sand dunes are part of a dune system located in the open lot to the north of the property and are transported into the NOS Kīhei property via the dominant northwest winds. Average site elevation is approximately +1.37 m [+4.5 ft] mean sea level (msl) with a low point of +0.91 m [+3 ft] msl in the central parking and high point of +3.35 m [+11 ft] msl on the crest of the dunes in the northeast quadrant. There are no outcrops of basalt bedrock or marine limestone exposed on the site, nor any surface water channels.

From a bird's eye view the western property line (shoreline) extends slightly seaward beyond both adjacent parcel's shoreline, forming what appears to be a small peninsula. The three sides of this peninsula are lined with a boulder size basalt rock revetment that was likely installed to prevent wave erosion of the property. The exact date that this structure was constructed is not known, however, historical photographs of the site show that it did not exist in 1948, but it was in place in 1969. The property along this shoreline is slightly elevated above the adjacent parcels. During the preparation of this EA, numerous historical photographs of the area were reviewed. It was concluded from these

reviews that the shorelines immediately to the north and south of the Sanctuary have receded inland approximately 6.1 m [20 ft] between 1948 and the present.⁴

The Sanctuary parcel and the adjacent Ka'ono'ulu Beach to the north have a dynamic topography due to impacts from dune forming processes. Dunes form in areas where local conditions favor the deposition of sand. Along the Kīhei shoreline, the sand source of the dunes is derived from coral reefs, ancient lithified dunes as well as depositional sediments from terrestrial sources. The sand is transported parallel to the shoreline via nearshore currents, where it is further subjected to transportation inland and deposition on the beach zone by waves. The sand substrates are then transported further inland by the onshore winds from the northwest.

The formation of dunes, which are zones of deposition, occurs when the wind transporting sand encounters a topographic flow obstruction such as vegetation. The energy of the wind is dissipated at obstructions, causing the sand grains to fall out on the lee side of the obstruction. Dunes are morphological features that are continually changing, albeit slowly in some cases. A dune can become quasi-stable when vegetation becomes established on their surfaces, which slows their migration (Howard et al., 1977). The dunes located on Ka'ono'ulu Beach north of the Sanctuary have formed on the lee side of drift fences and kiawe trees and display what is commonly referred to as a barchan shape. A barchan dune is a feature where the backside (windward) face of the dune is aligned perpendicular to the wind direction, and the dune migrates from the sides (horns) of the face in the direction of the wind. The drift fences were installed as part of dune restoration project initiated by an informal agreement between Maui County and the Sanctuary. Maui County provided the materials, and Sanctuary staff and community volunteers installed the fences. The goal of this project was to trap sand on the beach area that otherwise would be blown inland and lost (Cappelle, pers. comm. 2003). There is an identified need by the Maui County Planning Department (MCPD) to maintain dunes along the coast and restore sand to recreational beaches where erosion is ongoing. Figure 6 depicts the general layout of the dunes on Ka'ono'ulu Beach with the drift fences.

At present, the north end of Ka'ono'ulu Beach is mostly free of low growing vegetation above the high water line, which allows sand to blow across the parcel. A mature stand of kiawe trees is located on the inland half of the parcel, primarily in the southeast section of the lot. The majority of the larger older dunes on this lot are located around the base of these trees and on their lee sides. This includes the northern edge of the Sanctuary parcel as well, which is the inland depositional zone of sand downwind of these trees. The dunes that form in this area are further subjected to morphological adjustments and location by wind and sands that are deflected off the north side of the storage buildings located on the Sanctuary. As the northwest winds encounter these storage buildings, the wind direction is changed from southeast to a predominately east heading. The combination of the kiawe trees and the buildings results in a funneling of the sands onto the Sanctuary property and the formation of the dune that is located in the northeast portion of the parcel. Figures 7 and 8 depict the dune, storage buildings and kiawes from the northwest and southeast.

⁴ Information based on analysis of historic and current photos obtained from the Sanctuary archives.

The dune located on the northeast section of the Sanctuary property is a feature that has formed since approximately the mid-1960s. This reference date was determined by reviewing historic photographs of the site, which show the landscape in the area encompassed by the dune nearly level to the existing driveway elevation. Figure 9 was taken in 1964 and depicts the Sanctuary property looking into the property from the east. Note that the area between entrance driveway and the northern property line in front of the storage building is nearly level to the driveway grade. Figure 10 is an undated aerial photograph taken in approximately 1968, and it depicts the initial formation of the inland dune on the east side of the storage building. Note that the antennas visible in this photograph were installed in approximately 1948. Other earlier historical photos show the area surrounding the antennae were excavated and the surrounding surface area leveled prior to their installation.

Maui County Public Works Department, Development Services Administration requires that a Certified Coastal Engineer classify dunes as to their specific type (i.e., coastal or inland) prior to grading or mining. Dune processes are very dynamic and complex. The location and size of dunes adjust in response to shifts in the shoreline due to erosion and accretion rates, the impacts to wind hydraulics from nearby dunes, and changes in vegetation controls.

3.2.4 CLIMATE

The climate observed in the Hawaiian Islands is a function of the upper air circulation of the region. The dominant circulation pattern is that of an anticyclone, which is generally located to the northeast of the Islands. The result of this anticyclone is the production of trade winds that blow out of the northeast approximately 60 percent of the year. The trade winds contain warm air masses passing over the ocean that become moisture laden and are subjected to orographic uplift when they reach the islands and move over the mountains. This air becomes cool and saturated as it rises, producing rainfall. The effect is most pronounced on the windward side of the Islands. It also accounts for the fact that rainfall amounts have a high spatial variability, with areas located upslope or towards the top of the mountains on the windward side of the Islands receiving more rainfall than areas along the coastlines or leeward sides.

The Sanctuary property is located along the west coast of East Maui in the rain shadow of Haleakalā Volcano. As a result, very few tradewind showers reach the area, causing it to be one the most arid regions on the Island of Maui. Average annual rainfall along the Kīhei coast is approximately 38 cm [15 inches]. Much of this rainfall comes from low-pressure storm systems, commonly referred to as Kona lows. Rainfall rates associated with these systems is often high, leading to widespread flooding along the coast and other low lying areas.

A unique climatic feature along the Kīhei coast results from the dominant tradewinds from the northeast that are funneled between Haleakalā and West Maui. Portions of these winds are reflected off West Maui and head south towards the Kīhei shoreline. These winds are furthered pulled into Kīhei coastline by the feature known as the Maui vortex. The Maui vortex refers to the upslope winds that rise from the coast up the west side of Haleakalā during the day as the land surface heats up. This pulling of the southerly tradewinds off West Maui results in the winds becoming westerly or northwest onshore winds (Rooney, pers. comm. 2002).

Figure 6. Sand Dunes and Drift Fences on Ka'ono'ulu Beach. (SRGII 2002)



Figure 7. Sanctuary Property from Northwest Looking at Dunes. (SRGII 2002)



Figure 8. Sanctuary Property from Southeast, note alignment of dune. (SRGII 2002)



Figure 9. Sanctuary Property from South Kīhei Road, 1964, note dune is not present. (Sanctuary archives)



**Figure 10. Aerial Photograph of Sanctuary Property circa 1960s,
note dune on east side of storage building.**

(Sanctuary archives)



3.2.5 SOILS/GEOLOGY

Soils found within the Sanctuary property are part of the Pūlehu-Ewa-Jaucus association (USDA SCS 1972). These soils are described as deep, well drained, fine to coarse-grained, occurring on mild slopes on alluvial fans and in basins. The soil on the Sanctuary property is comprised of Jaucus Sand Series derived from calcareous deposits from marine environments (USDA SCS 1972). This soil type is not prone to erosion by water on mild slopes, but is easily eroded by the wind when exposed.

Recent soil borings conducted on the Sanctuary property revealed that the sand layer found on the surface extends on average to a depth of 0.9 m [3 ft] below the ground surface (Pacific Geotechnical Engineers, Inc., 2002). Below this upper sand layer are additional grades of various, unconsolidated, sandy and gravel layers that extend down to basalt lavas located 13.7 m [45 ft] below the ground surface at -12.19 m [-40 ft] msl.

The geology at the coast is comprised of lithified dunes and unconsolidated sand deposits resting on top of basalts lavas (MacDonald, 1983). Alluvial sediments that were eroded from the inland zones and transported down the gullies of the area are found interdispersed in the sand layers.

The Hawaiian Islands are divided into three seismic zones, as specified by the Uniform Building Code (UBC) for the purpose of structural design. The entire island of Maui is classified as Zone 2A as per UBC (1997), which is a seismically active area of the state. Given that the least active zone is Zone 0, and the most active zone is Zone 4, the possibility of an earthquake occurring on the Island of Maui is moderate.

3.2.6 WATER RESOURCES

There are no brackish or fresh water bodies located on the property. The nearest channels entering Ma‘alaea Bay (sea) are Kūlanihāko‘i Gulch, about 137 m [450 ft] north, and Waipu‘ilani Gulch, about 381 m [1250 ft] south. These gulches are intermittent and flow only after large rainfall events. The mouths of these gulches are often blocked at the sea by sand dunes, which cause flooding of adjacent land areas following heavy rains. Flooding associated with heavy rainfall events is common all along the Kīhei coastal zone (Hirota Inc., 1979). The area is also susceptible to flooding caused by high surf and tsunamis. The Sanctuary property is located in Flood Zone A-4 and has a base flood elevation of +3.05 m [+10 ft] msl (Maui County Code Section 19.62.060).

The central parking lot and property entrance road are relatively low-lying areas with very minor slopes, making them prone to flooding. Following heavy rainfall events, sheet flow from South Kīhei Road and from within the Sanctuary property causes these areas to flood. These ponded areas dry out as water slowly drains off into non-impervious areas and evaporates.

A review of the State water well database found that there are three wells within a 0.805 km [0.5 mi] radius of the Sanctuary property. Of these wells, only one (4527-10) is in use. This well is used to pump brackish water for irrigation and is located about 402 m [0.25 mi] south at an elevation of +2.13 m [7 ft] msl. No other active wells are located within a 1.6 km [1 mi] radius of the Sanctuary property.

A review of National Wetland Inventory maps (US Department of Interior, Fish and Wildlife Service, 1978) found two wetland sites that are located near the Sanctuary. The first is found *mauka* (inland) of South Kīhei Road near the mouth of Kūlanihāko‘i Gulch and is classified as Palustrine, Open Water/unknown bottom, Permanent, Diked/Impounded. The second is also *mauka* of South Kīhei Road to the south of the gulch and parallels the road and is classified Palustrine, Emergent, Persistent, and Non-tidal-seasonal.

3.2.7 HAZARDOUS WASTE

A search of available records was conducted using ASTM Standard Practice for Environmental Site Assessments, E 1527-00. The following databases were searched: Federal ASTM Standard (National Priority List, Comprehensive Environmental Response, Compensation, and Liability Information System, Corrective Action Report, Resource Conservation and Recovery Information System, Emergency Response Notification System) and State ASTM Standard (Sites List, Permitted Landfills in the State of Hawai‘i, Leaking Underground Storage Tanks, Under Ground Storage Tanks Database, Spills Release Notifications).

The search radius was centered from 726 South Kīhei Road. The search distance used from the Sanctuary property was based on E 1527-00 criteria and varies for the individual standards. No mapped sites were found in government records either for the Sanctuary property or within a 0.805 km [0.5 mi] search radius.

3.2.8 CULTURAL AND HISTORICAL RESOURCES

Like many coastal areas in the Hawaiian Islands, the Kīhei coastline has a rich history and significant cultural resources. Native Hawaiians have lived along the Kīhei coast, which includes the area now occupied by the Sanctuary, since the 16th century (Wilcox, 1922). The coastal zone contained several fishponds including Kō‘ie‘ie⁵ (Kalepolepo), which is located adjacent to the NOS Kīhei property. The walls of this pond still exist in their original location and are in various stages of disrepair. Kō‘ie‘ie Fishpond was placed on the State Register of Historic Places on June 1, 1996, and the National Register of Historic Places on December 30, 1996. The village of Kalepolepo was located just south of the Sanctuary property in the Waiohuli *ahupua‘a*. Native Hawaiians carried out their traditional fishing and farming practices in this area from the time of their arrival to Maui until the mid 19th century (Kolb et al., 1997).

Neither the Sanctuary buildings nor the property are registered on the National Register of Historical Places. An archeological reconnaissance survey on the Sanctuary property was carried out in 1981 and found no surface features (Keau, 1981). In 1982, another archeological reconnaissance survey was conducted on the Sanctuary property and concluded that there was no indication of significant subsurface deposits (Neller, 1982). This later report, however, stated that historical evidence suggests that cultural deposits exist on the property and that all construction activities should be monitored by an archeologist.

⁵ Kō‘ie‘ie is the pre-contact name of the pond. The name Kalepolepo was adopted sometime in the 1800s.

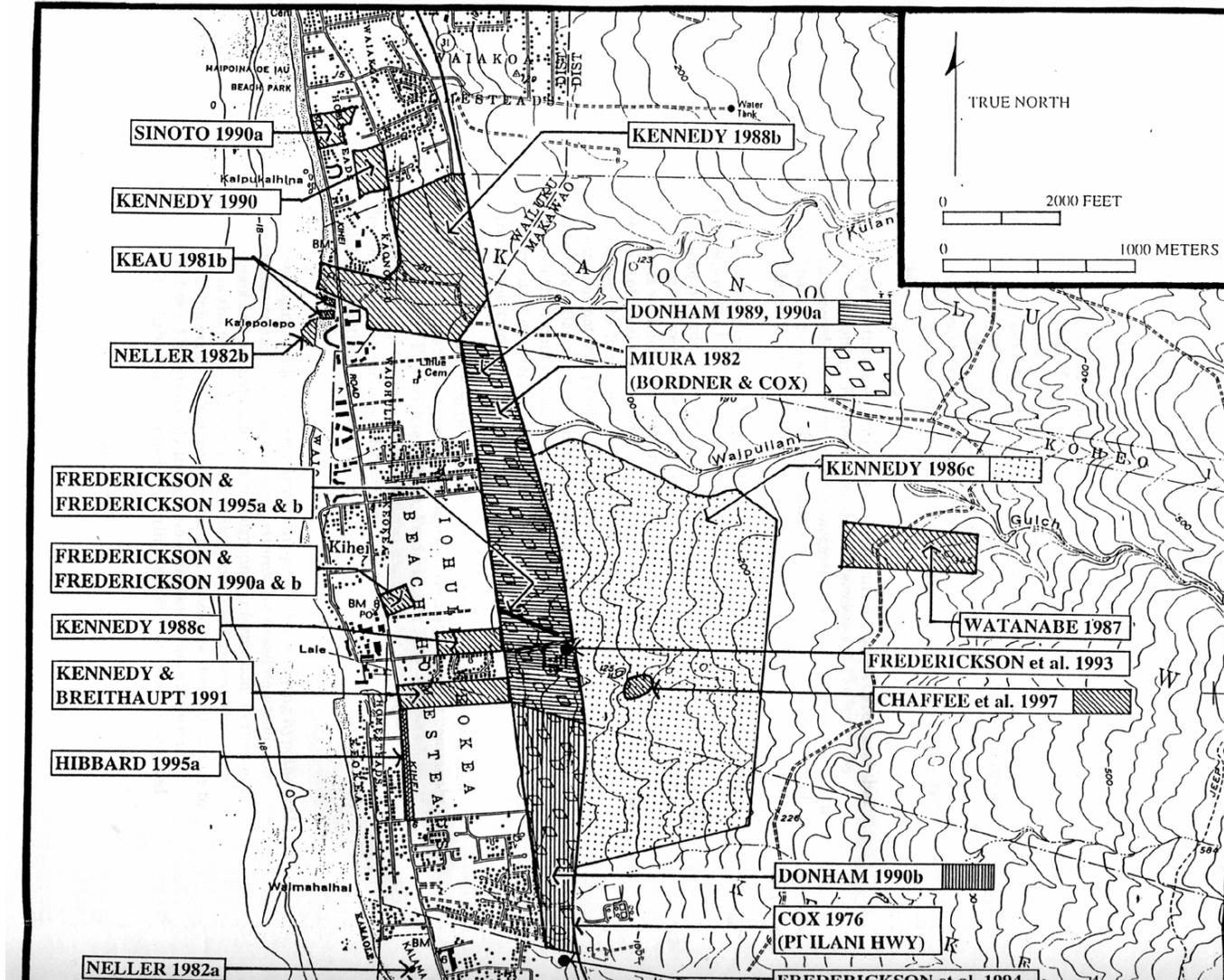
Much of the Hawaiian archeological records for the Kula district coastal zone are based on information gathered from only a few archeological sites (Kolb et al., 1997). The primary reason for this is that, prior to the early 1970s, development of this area proceeded with only a few archeological surveys or investigations. It is speculated by archeologists that much of the historical record was lost, which may explain why more recent archeological investigations do not locate many new sites or artifacts. Furthermore, it could help explain what the traditional practices of the pre-contact Hawaiians as well as where cultural sites were located (McDermott, 2001). The historical information for the site was obtained by reviewing several archeological reports. There was no mention in the reference materials that the area now encompassed by the Sanctuary property was used specifically for house sites or for human burials during the period of pre-contact Hawaiian occupation of the area.

A review of Figures 9 and 10 (located in Section 3.2.3) shows that dunes were not located on the site in the mid and late 1960s. Other historical photographs taken in the 1947 and 1948 also depict the site without dunes. It is not known if the site contained dunes historically before the development by the U.S. government. If dunes and cultural layers did occupy the open spaces of the site, it can be inferred that the dune layers from the tops of the dunes down to the grade of the existing parking lot were destroyed during site development. Kō'ie'ie (Kalepolepo) Fishpond, adjacent to the Sanctuary property, was referred to in several reports (Cordy, 1977) as a designated *ali'i* (royal) fishpond, which would mean that access and uses would have been regulated. It is further inferred that this designation would have also resulted in regulations on the land use and cultural practices in the area immediately surrounding the fishpond. Figure 11 depicts some of the known recorded archeological sites of the area.

Contact between the Native Hawaiians and people of European ancestry were made along the Kīhei coastline when Captain George Vancouver and his crew arrived in 1792. From that point forward, European sailing vessels continued to arrive and anchor along Kīhei due to its sheltered coastline and accessibility to upland resources. Beginning in the 1820s, the whaling industry started in Hawai'i and a small whaling station was centered at Kalepolepo (Okamoto, 2000). The onset of the whaling industry and the California gold rush of the mid-1800s led to shifts in agricultural production from traditional Hawaiian crops to Irish potatoes to help feed both the whalers and miners. In 1849, John Halstead built a house on the south side of Kō'ie'ie (Kalepolepo) Fishpond, known as the Koa House, which served as a store and a social gathering place. This store was located along the southern boundary of the present day Kalepolepo Park. The mid-1870s marked the onset of less demand for agricultural goods derived from the Kula District, and the population of the area began declining, leading to the eventual closing of the store in 1879.

During the 1800s, the population of the Hawaiian peoples was reduced and shifted due to the influx of Western diseases and the clustering of people around the port towns (Kuykendall, 1938). During this time, Christianity was introduced to the Native Hawaiian people, and many of their traditional religious practices were no longer followed. Around 1848, a cemetery was established east of Kalepolepo near the modern day Trinity by the Sea Church *mauka* of South Kīhei Road. It is suspected that, from the mid 1800s forward, people from the Kalepolepo area would have found their final resting place in this cemetery.

Figure 11. Map of Locations of Archeological Studies along Kihei Coastline.
 (from Hammatt and Shideler, 2000)



During the period of the early 1800s, cattle ranching began in the upland zones of Kīhei. Large-scale reductions in the native plant communities and a general degradation of the watershed resulted in increased sediment production, which led to siltation of the fishponds along the coast by the 1870s (Walker, 1931). The result was that fish harvesting from the fishponds ceased in the latter half of the 1800s. In addition, during this time, kiawe (*Prosopis pallida*) was introduced as a fodder for cattle. This plant readily established from the mid-elevations of the western slopes of Haleakalā down to the coastal zone (Kennedy, 1992). The combination of increased sediment along the seashore and changes in shoreline vegetation are believed to have led to increases in coastal sand dunes.

In 1941, the U.S. Navy installed a degaussing station on the area currently occupied by the Sanctuary. The three-story building that is located on the site was built in 1942, along with the adjacent garage building. The property was being leased from the Ka‘ono‘ulu Ranch Company, and it is surmised that they allowed the Navy to construct buildings and make improvements on the site prior to the U.S. Government actually owning the property. This blue, three-story building, which now serves as the offices for Sanctuary staff and volunteers, has a Cape Cod architectural style. In 1954, the cinderblock shed that now serves as the Education Center, and the generator building that presently serves as a storage locker, were built.

In 1947, the National Bureau of Standards installed a series of radio transmitting antennas as part of the (WWVH) project on the Sanctuary land and on the adjacent lots to the north and south. Historic photographs show that the areas where the antennas were placed were cleared and graded down to the level of the property’s entrance road. Two of these antennas were located on the northeast section of the Sanctuary property where the proposed multi-purpose building is sited. These photographs, along with others taken in the late 1960s, show that the area where the sand dunes are presently located was historically level land, at grade with the entrance road. Figures 12 and 13 depict the site and several antennas from this era.

The U.S. Department of Commerce purchased the property from Ka‘ono‘ulu Ranch Company in 1956 and continued to operate the WWVH operations from the site until 1971. There are no records to indicate that prior to or during construction activities between 1941 and 1971 on the Sanctuary property that archeological reconnaissance was conducted. Further, no records were located that discussed the findings of artifacts or human remains during this period.

In 1971, the WWVH was terminated on Maui and NOAA’s National Environmental Satellite, Data and Information Services (NESDIS) Ionosphere Station was established on the site. The NESDIS Ionosphere Station continued until 1994 when the property was transferred to the HIIHWNMS. Since 1994, HIIHWNMS has maintained an office and Education Center at the site. The Sanctuary property is also used by the local community for meetings and public gatherings.

3.2.9 VISUAL RESOURCES

The Sanctuary and its buildings are located along the eastern shoreline of Ma‘alaea Bay. Views from the western edge of the property extend 180 degrees up and down the coastline and out across the bay, are not blocked by vegetation or buildings, and are highly aesthetic. The viewshed from this vantage point

includes Molokini Crater and the island of Kaho‘olawe to the south, the island of the Lāna‘i to the west, and West Maui to the northwest. For both the staff and visitors to the Sanctuary, the views out across the bay are excellent and are ideal for whale watching. The views to the east of low angle objects from the Sanctuary grounds are obscured by the kiawe trees growing along the property’s eastern edge. Views from this vantage point looking *mauka* towards Haleakalā are excellent on clear days.

Views into the site from locations north and south along South Kīhei Road and properties east are obscured by sand dunes, kiawe tress, and other vegetation growing on the Sanctuary property and on adjacent parcels. The dominant feature on the Sanctuary from these vantage positions is the Sanctuary office building. This building rises to height of nearly 13.7 m [45 ft], and its blue color stands out. This building also stands out along the coastline when viewed from boats on the bay. Figure 14 depicts the Sanctuary property from the vantage point of the intersection of South Kīhei Road and the Sanctuary entrance. Looking into the site, one can see the office building, the Education Center with marine themed murals painted on its exterior, the sand dune, and the storage buildings along the northern edge of the property. Figure 15 depicts the office and storage building viewed from the north. Only a few units at the condominiums on the east side of South Kīhei Road that are in line with this intersection have an un-obscured view into the Sanctuary property and partial views of the ocean beyond. Ocean views from the other condominiums on the east side of South Kīhei Road are obscured by the numerous kiawe trees and other vegetation growing between the two areas.

3.2.10 AIR QUALITY

The air quality at the Sanctuary and the adjacent airshed is not listed as impaired by the Hawai‘i Department of Health Clean Air Branch (Wong, pers. comm. 2002). Due to the presence of the almost constant tradewinds, the air quality of the Hawaiian Islands is noted as high quality. The same tradewinds that keep the atmosphere mixed and clean may also transport smoke and other particulate matter. During periods of high winds along the Kīhei coastline, sand from the coastal dunes can become suspended and create temporary dust storms. It is common near the shoreline to have salt spray carried along with the sea breeze.

3.2.11 NOISE

The types of activities conducted on the Sanctuary property rarely involve the use of mechanical equipment that would generate high decibel levels. The ambient noise level generated at the site originates from human conversations both in and outside of the buildings, waves washing the shoreline, and wind blowing through and around objects. As a comparison, the noise level of normal human conversation heard at a distance of 1.5 m [5ft] is 60 decibels (dBA). Vehicular traffic enters and leaves the Sanctuary at various intervals during the day. Noise generated from this traffic is estimated to produce 70 dBA as heard at distance of 7.6 m [25ft], which is within normal traffic background levels. Overall, the noise levels generated from the Sanctuary property are minimal and do not impair use of surrounding properties.

Figure 12. Sanctuary Property, 1964 Photograph,
note that no dune is present east of the storage building. (Sanctuary archives)



Figure 13. Kalepolepo Park, with Installation of Transmission Antenna, circa 1947.
(Sanctuary archives)



Figure 14. Current Site from Northeast with Three Buildings and Dune. (SRGII 2002)



Figure 15. Current Site from North with Office Building. (SRGII 2002)



3.2.12 LAND USE

The Sanctuary property is zoned as “Interim Park” as defined under Title 19 Section 02 of the Maui County Planning Department ordinances. Zoning classification and building requirements are described in Section 3.5.7. Government buildings are an acceptable use of land classified as interim park (Cerizo, pers. comm. 2003). The Kīhei-Makena Community Plan (KMCP) was developed by the Maui County Planning Department as a long-term planning document for the region (MCPD, 1998). It provides specific recommendations to address the goals, objectives, and policies in the General Maui County Plan. Several objectives and policies related to land use were developed. The current and proposed future facilities and activities of the Sanctuary are compatible and complementary with the goals of the KMCP. The Sanctuary property has several official functions, which include serving as an administrative office, an educational center, and a community meeting/gathering place. The Sanctuary provides recreational opportunities such as whale watching and outdoor activities. The land uses carried out on the Sanctuary property are compatible and complimentary to land uses taking place on surrounding parcels. Maui County Planning Department requires that all shoreline properties adhere to setback standards. Based on the best available information the distance of this setback at the site is 25.1 m [82.5 ft].

3.3 BIOLOGICAL FACTORS

3.3.1 VEGETATION

Vegetation found on the Sanctuary includes a mix of native and non-native plants. The high diversity of native plants results from plantings as part of a landscaping project implemented in 2000.⁶ Other native plants, such as *naupaka kahakai* and beach heliotrope, occur naturally. An irrigation system was installed as part of the native plant landscaping project. Interpretive signs were placed next to native species, identifying their scientific and common Hawaiian names. One federally endangered species, ‘*olulu* (*Brighamia insignis*), was planted during this project. Based on the best available knowledge, no other known threatened or endangered plant species are currently growing on the Sanctuary property.

The dominant overstory plant is kiawe (*Prosopis pallida*), which is a non-native invasive species. These trees thrive in the arid environment of the Kula District and are found from near the coast to the mid elevations inland. Other non-native species found throughout the Sanctuary property and the surrounding areas include grasses, weeds, ornamental trees, and non-native invasive species. The dominant groundcover planted on the open spaces on the eastern half of the parcel is ‘*aki ‘aki* grass. This grass was planted during 2000 as part of the native plant landscaping project.

Kiawe trees dominate the landscape of the undeveloped adjacent parcel to the north of the Sanctuary property. The kiawe trees function as windbreaks by reducing the speed of the wind, which results in deposition of sand and subsequent formation of sand dunes on lee or downwind sides. Several of the largest dunes on both that parcel and the Sanctuary are immediately downwind of these trees. In addition, very little under story vegetation is found underneath the kiawes, allowing sand to continually move along with the wind, increasing the size of the dunes. The dunes on the northeast section of the Sanctuary

⁶ These plants and their Native Hawaiian uses are described in a brochure available at the Sanctuary: *Nā Meakanu o Hawai‘i Nei, The Plants of Hawai‘i*.

property show signs of stabilizing, which is most likely the result of vines and grasses establishing on them. The dominant vegetation on these dunes includes beach heliotrope and 'aki 'aki grass.

Table 3-1. Native Plant Species

| Hawaiian Name | Common Name | Scientific Name | Status |
|---------------------------|-----------------------|--------------------------------|-------------------------|
| 'A'ali'i | Hawaiian hopseed bush | <i>Dodonaea viscosa</i> | Indigenous |
| 'Aki'aki | Seashore rush grass | <i>Sporobolus virginicus</i> | Indigenous |
| 'Ākia | False 'ōhelo | <i>Wikstroemia uva-ursi</i> | Endemic |
| 'Ākulikuli | Sea purslane | <i>Sesuvium portulacastrum</i> | Indigenous |
| Hinahina kūkahakai | Beach heliotrope | <i>Heliotropium anomalum</i> | Indigenous |
| 'Thi | Purslane | <i>Portulaca molokiniensis</i> | Endemic |
| 'Ilima kūkahakai | | <i>Sida fallax</i> | Indigenous |
| Kauna'oa | Native dodder | <i>Cuscuta sandwichiana</i> | Endemic |
| Kī | Ti plant | <i>Cordyline terminalis</i> | Polynesian introduction |
| Koki'o 'ula'ula or Koli'o | Hibiscus | <i>Hibiscus kokio</i> | Endemic |
| Kou | | <i>Cordia subcordata</i> | Polynesian introduction |
| Ma'o | Hawaiian cotton | <i>Gossypium tomentosum</i> | Endemic |
| Milo | Portia tree | <i>Thespesia populnea</i> | Indigenous |
| Naio | False sandalwood | <i>Myoporum sandwicense</i> | Indigenous |
| Naupaka kahakai | Beach naupaka | <i>Scaevola sericea</i> | Indigenous |
| Noni | Indian mulberry | <i>Morinda citrifolia</i> | Polynesian introduction |
| 'Olulu | Cabbage on a stick | <i>Brighamia insignis</i> | Endemic, Endangered |
| Pā'ū o Hi'iaka | | <i>Jacquemontia ovalifolia</i> | Indigenous |
| Pohinahina | Beach vitex | <i>Vitex rotundifolia</i> | Indigenous |
| Pōhuehue | Beach morning glory | <i>Ipomoea pes-caprae</i> | Indigenous |

Note – Endangered species listed in the Endangered Species Act of 1973, as amended. Source: US Fish and Wildlife Service. *Endemic* plants are found only in Hawai'i. *Indigenous* plants are found naturally in Hawai'i and elsewhere. *Polynesian introduction* plants were brought to Hawai'i by the Polynesians.

3.3.2 WILDLIFE

The biological communities that occupy the Kīhei coastal zone have been impacted by anthropogenic activities. Terrestrial mammals located near the site are few and those that do exist in the area are most likely introduced wild and feral species including feral cats (*Felis catus*), dogs (*Canis familiaris*), mongoose (*Herpestes javanicus*), and rat (*Rattus rattus*). The Hawaiian Hoary Bat (*Lasirus cinereus semotus*) is the only native terrestrial mammal in Hawai'i and is listed as endangered under the Endangered Species Act. The Hawaiian Hoary Bat has been seen on the islands of Hawai'i, Maui, O'ahu, Kaua'i, and Moloka'i, but may only live on Hawai'i, Kaua'i, and Maui. There has been limited research on this animal, and it is not known if it frequents the Kīhei area.

The threatened Green turtle (*Chelonia mydas*), and the endangered Hawksbill turtle (*Eretmochelys imbricata*) are known to frequent Ma‘alaea Bay. Although it is very rare for the Green turtle species to nest on the island of Maui (Eames, pers. comm. 2003), in 2001 a Green turtle nest was found in the sand dunes directly north of the existing sheds on the vacant beach park parcel (Lot 2A) owned by Maui County. This nesting of a Green turtle at Ka‘ono‘ulu Beach was an unusual occurrence, and this turtle has subsequently utilized Lahaina Shores Beach (Balazs, pers. comm.). Hawksbill turtles commonly nest on Sugar Beach located approximately 2.1 km [1.3 mi] north of the Sanctuary (Cappelle, pers. comm. 2003). There are no known occurrences of Hawksbill turtles nesting on or in the immediate vicinity of the Sanctuary property. There are no native forest birds found near the Sanctuary property or that are known to travel through the surrounding areas. There are four endemic native waterbirds that are listed under the Endangered Species Act and several migratory waterbirds that are protected under the Migratory Bird Treaty Act that may utilize either the land or marine environments near the Sanctuary property. These species are listed in Table 3-2.

Table 3-2. Endemic and Migratory Avian Species

| Common Name | Hawaiian Name | Scientific Name | Status |
|---------------------------------------|-----------------------|--|------------------------|
| Hawaiian duck | <i>Koloa moali</i> | <i>Anas wyvilliana</i> | Endangered |
| Hawaiian stilt | <i>Ae‘o</i> | <i>Himantopus rnxicanus knudseni</i> | Endangered |
| Hawaiian gallinule, Common moorhen | <i>‘Alae ‘ula</i> | <i>Gallinoula chloropus sandvicensis</i> | Endangered |
| Hawaiian coot | <i>‘Alae ke‘oke‘o</i> | <i>Fulica alai</i> | Endangered |
| Wandering tattler | <i>‘Ulili</i> | <i>Heteroscelus incanus</i> | Protected Migratory |
| Sanderling | <i>Hunakai</i> | <i>Calidris alba</i> | Protected Migratory |
| Pacific golden plover | <i>Kolea</i> | <i>Pluvialis fulva</i> | Protected Migratory |
| Ruddy turnstone | <i>‘Akekeke</i> | <i>Arenaria interpres</i> | Protected Migratory |

Note – Endangered species listed in the Endangered Species Act of 1973, as amended. Migratory birds are protected under the Migratory Bird Treaty Act of 1918, as amended. Source: US Fish and Wildlife Service

3.3.3 FISH

There are no fresh water fish species found inland along the Kīhei coast due to the absence of fresh water bodies. Numerous marine fish species and other aquatic organisms are located in Ma‘alaea Bay. The activities that take place at the Sanctuary do not impact the fish species in the Bay.

3.3.4 INSECTS AND DISEASE

There are no known populations of disease in the area of the Sanctuary (HIDOH pers. comm., 2002). Mosquitoes and other insects that are often vectors of diseases are sparse along the Kihei coast due in part to the arid climate and the lack of open fresh water bodies.

3.4 ECONOMIC FACTORS

3.4.1 ECONOMIC BASE

For the purpose of this EA, the socio-economic study area is defined as the Kula District. Tourism and the supporting infrastructure (including whale watching tours and activities) are the major economic industries of the district (DBEDT, 2002). It was estimated that, during the whale season in 2001, \$11 to \$16 million was generated via direct revenues in Hawai'i and that 64 percent of whale related activities takes place on the island of Maui (Martin, 2001).

3.4.2 EMPLOYMENT/UNEMPLOYMENT

The latest available annual data from the State Department of Labor and Industrial Relations (DLIR) reported that the civilian labor force on Maui was 69,400 in 2001.⁷ Of these, 66,300 were employed and 3,100 were unemployed, returning an average unemployment rate of 4.4 percent for 2001 (DLIR 2002). It is estimated that about 18 percent of those jobs are located along the South Maui area that includes the Kula District (DBEDT 2002).

Currently, the Sanctuary employs five full-time employees and five part-time employees at the Kihei site. In addition, there is a steady corps of volunteers who help staff in the Education Center, perform office and general upkeep of the property duties, and help with education and outreach programs. The number of volunteers fluctuates throughout the year but can exceed fifty during whale season. Information is not available as to what affect the payroll from these employees has on the overall economy of the District. However, it is assumed that these positions contribute positively to the well being of business serving the district.

3.4.3 INCOME

The average annual wage on Maui in 2001 was \$28,192 (DBEDT 2001). This is slightly less than the state wide average of \$31, 241.

3.4.4 HOUSING

Kihei is the primary housing and commerce center of the Kula District. A stated goal of the Kihei-Makena Community Plan (MCPD, 1998) is to provide housing to below average income families and develop long term employment opportunities for the residents. Housing near the Sanctuary consists of condominiums and single-family homes. There are no housing facilities on the Sanctuary property.

⁷ The labor force is comprised of all persons, 16 years and over, classified as employed or unemployed.

3.4.5 PLANS AND PROGRAMS OF OTHER AGENCIES

The Sanctuary shares a common goal with Maui County schools to provide increased educational opportunities to students. The Sanctuary has and plans to continue to offer activities for school age children to increase their knowledge of the unique marine resources surrounding their island home. The Kīhei Makena Community Plan identified a need for a community center to house community forums and events (MCPD 1998).

3.5 SOCIAL FACTORS

3.5.1 POPULATION DYNAMICS

The population of Maui was reported in 2000 as 128,241 people, an increase of 22 percent from 1990 census data (DBEDT 2001). The population of the Kula District was 6,659 in 2002—an increase of 21 percent from 1990 census population of 5,525 (DBEDT 2001). The Kīhei–Makena region of Maui is the third largest residential community on Maui (MCPD 1998). Of the total island population, 25.5 percent of the people fall in the age class of under 18 years old (DBEDT 2001). Population growth is expected to continue in the District and on Maui in the next decade. Non-resident tourist visitors to the District vary seasonally and increase the total number of persons. The information sources cited in this section are the latest available.

3.5.2 SOCIAL INSTITUTIONS

Public education on Maui is administered under the State of Hawai‘i’s Department of Education. Law enforcement is carried out by the Maui County Police Department. Fire protection is carried out by Maui County Fire Department. The nearest hospital, Maui Memorial Medical Center, is located in Kahului, a distance of 19.3 km [12 mi] from Kīhei.

3.5.3 SPECIAL CONCERNS

As indicated in the Kīhei-Makena Community Plan, there is a need to protect exiting shoreline properties and open spaces to ensure that access and opportunities to enjoy the ocean environment are maintained for the future. Additionally, the plan states that there are needs for educational and recreational opportunities for the region’s children (MCPD 1998).

3.5.4 WAYS OF LIFE

The Kīhei region contains a diversity of people from various ethnic backgrounds. There is a strong sense of community of the people who live and work in the area. The abundant sunshine and proximity to Ma‘alaea Bay provide incentive for the inhabitants of the area to enjoy activities related to the marine environment.

3.5.5 RECREATIONAL RESOURCES

The cordial atmosphere of Sanctuary headquarters and the wide range of educational and entertaining activities it offers continue to rank as an unequivocal achievement that has enabled the Sanctuary to establish its identity as a source of marine education in the community. These educational activities provide a unique form of recreation to both the *kama'āina* (native born) and tourist visitors. The atmosphere created at the Sanctuary is compatible with the adjacent beach park in that both areas provide people with an opportunity to enjoy the coastal environment.

As described in the *Facility Master Plan Report* (API 2000), the Sanctuary conducts a set of programs and activities aimed at educating both the local community and visitors. A lecture series is offered once a month for a two-hour period in the evening, requires two Sanctuary staff, and usually draws about 40-50 people. The Lecture Series is currently conducted in the Education Center that has a maximum room capacity of 48. Currently, the series attracts capacity crowds and is anticipated to attract more members of the community as word spreads. As a recent example, the Sanctuary had to turn away many people from a lecture given on the evening of January 14, 2003, because the both the room (seats) and the parking lot were full. The lecture was offered again the following morning. Whereas the Tuesday morning lectures usually have 15-18 people, the day following that crowded evening lecture, there were 75 (Cappelle, pers. comm. 2003).

Education is conducted through outreach programs taken into the community and through programs and activities offered at the Sanctuary headquarters. Visitors to the Sanctuary headquarters fall into two groups—School Groups and Daily visitors (walk-ins). The sanctuary conducts school groups on an average of two to three times a month. Sessions can run up to four hours, accommodate up to 120 school children, and require the participation of nine staff members or volunteers. Large groups are broken into three or four smaller groups and then rotated through stations on specific topics (e.g., humpback whales, turtles, Hawaiian culture, and inter-tidal zone). In this manner, the entire site is utilized including the beach area to the north and Kalepolepo Park to the south. Additional walk-in visitors are unable to explore exhibit areas in the Education Center while these sessions are occurring.

The Sanctuary Education Center is open Monday through Friday from 10 a.m. to 4 p.m. The current daily average is 20 visitors per day (requiring support of two Sanctuary staff or volunteers), a number that rises to about 48 visitors per day (requiring support of three Sanctuary staff or volunteers) during peak whale-watching season. Sanctuary-recorded visitor counts from 1999 to the present have documented steady increases in the number of visitors to the Sanctuary. Annual visitor counts number 1,053 (1999), 1,899 (2000), 5,558 (2001), and 7,044 (2002) (Cappelle, pers. comm. 2003). The average length of stay is approximately 20 minutes. The current facility is able to meet most of the current needs for walk-in visitors. The inclusion of more exhibit space for larger displays and an assembly area would enable the Sanctuary to provide orientation and educational videos as well as lectures as an ongoing activity occurring several times a day without disrupting the exhibits and display. The addition of a new assembly area would also prevent visitors from disruptions caused by large school groups.

The Sanctuary headquarters also supports special events at a frequency of two to three sessions, lasting three to four hours, per month. These events accommodate an average of 30 persons, but may reach a maximum of over 2,000 persons. Most of these special events occur after normal business hours and on

weekends. The smaller events generally do not impact the daily functions of the facility. The larger special events that are open to the community generally occur on a weekend and utilize the entire site.

3.5.6 TRANSPORTATION AND PARKING

The main travel corridors in the Kula District are South Kīhei Road and Pi‘ilani Highway (MCPD, 1998). These two parallel roads are used by both residents and visitors as primary arteries and local routes when traveling around the district. The Kīhei-Makena Community Plan identified the need for alternative routes for this district, but it does not elaborate on specific proposed routes (MCPD, 1998). Neither Maui County nor the State of Hawai‘i Department of Transportation conducts traffic counts on South Kīhei Road (Lum, pers. comm. 2003). South Kīhei Road is owned and maintained by Maui County. Traffic fronting the Sanctuary along South Kīhei Road is often congested with stop and go conditions during peak traffic hours of 7:45-9:00 in the morning and 4:00-6:00 in the evening Monday through Friday (Lum, pers. comm. 2003).

South Kīhei Road does not have a turning lane or a traffic control device leading into the Sanctuary property, and thus, the level of services⁸ (LOS) may be impaired for vehicle operators as vehicles enter and depart the property. The LOS along South Kīhei Road, as defined by the American Association of State Highway and Transportation Officials (AASHTO), is reasonably free flowing with speeds and travel times restricted by vehicle levels.

During the primary whale-watching season of December through March, the majority of visitors arrive and depart the sanctuary in-between these peak hours, and thus, do not significantly impact traffic counts (Cappelle, pers. comm. 2003). Special events and public meetings held at the Sanctuary lead to minor slowing of traffic on South Kīhei Road due to vehicles arriving and departing during a short period of time. School children attending the Sanctuary’s educational outreach programs arrive in groups twice a month on school buses. Often during departure, the school buses back out onto South Kīhei Road, requiring staff to temporarily control traffic to allow the bus to safely negotiate an exit. This stopping of traffic is generally done during non-peak hours and has been noted by staff as not causing problems with motorists (Cappelle, pers. comm. 2003).

The Sanctuary presently has 22 parking stalls that accommodate visitors and staff parking needs under normal visitation. People attending special events and meetings at the Sanctuary may park in the Kalepolepo Park lot. Conversely, during heavy visitor use at the beach park, people recreating will park in the Sanctuary lot. To date there has been an informal agreement between the Maui County Department of Parks and Recreation and the Sanctuary to allow for this parking arrangement. The Sanctuary usually requires overflow parking during the evening hours when the park is not busy, while the park usually requires additional parking on weekends when the Sanctuary is closed.

⁸ Level of Service refers to the qualitative measure that describes operating conditions of a traffic stream and their perception by motorist and passengers.

3.5.7 ZONING

The existing site is zoned by the Maui County Code, Title 19 Zoning Code as “Interim Park”. This designation does not have any guidelines for development and requires that the Sanctuary headquarters site follow guidelines for the nearest, most restrictive zoned property or be re-zoned. The nearest, most restrictive zoned property is “A-1”, Apartment District. Permitted uses include those in residential and duplex districts, which include buildings or premises used by the federal, State or county governments for public purposes (API 2000).

4.0 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

4.1 INTRODUCTION

This section discusses environmental consequences (impacts) that could result from implementation of the Proposed Action and each alternative. The potential impacts of the Proposed Action are presented first. For each potential impact identified, mitigation actions and prescriptions are presented that make the impact inconsequential. There are no identified potential impacts to any resource derived from the Proposed Action for which mitigation measures could not be developed.

The descriptions of environmental consequences are arranged the same headings and sequence that were used in Section 3 for the Affected Environment factors.

4.2 PHYSICAL FACTORS

4.2.1 LOCATION

Environmental Consequences of the Proposed Action: Under the Proposed Action there would be no impacts or changes to the Sanctuary location.

Mitigation Measures: No mitigation measures would be required.

Environmental Consequences of the No Action Alternative: Similar to the Proposed Action.

Mitigation Measures: No mitigation measures would be required.

4.2.2 INFRASTRUCTURE AND PROPERTY LAYOUT

Environmental Consequences of the Proposed Action: Under the Proposed Action the two existing storage buildings will be demolished and removed from the property. A new multi-purpose building measuring approximately 38.1 m by 11.3 m [125 ft by 37 ft] (430 m² [4625 ft²]) will be built, and a new parking lot will be installed. A courtyard with benches and a hardened pavement will be installed in the west central portion of the site. The western portion of the new multi-purpose building will occupy the spot vacated by the wood storage building with the remaining section of the building located immediately to the east. The new parking lot is sited in the northeast corner of the parcel. The changes to the site layout will have a positive impact by providing a multi-purpose building, increasing on-site parking, and removing antiquated buildings.

It is anticipated that the increase in visitor numbers to the Sanctuary and Kīhei in general may increase demands on public services. Services that will likely have a minor increase in use include potable water use for drinking and hygiene needs, and effluent to the sewage system. Additionally, there will be an increase in electric use on-site due to the new building. There are several options that have been

evaluated to accommodate the increased use of water. The preferred option is to install one 25mm [1 inch] meter for domestic water and one 19 mm [0.75 inch] for irrigation, in addition to the existing 25 mm [1 inch] meter. Sewer lines from the new building will be piped into the existing sewer line network. Electrical service for the new building will be brought in from the existing pole-mounted transformer located near the entry driveway. There are no fire hydrants located on the parcel. Two hydrants are located across South Kihei Road, a distance of 20.1 m [66 ft] from the east property line. The Maui County Fire Chief will review this layout and make a determination whether an on-site hydrant is required. The increased usage of water, sewer and electric utilities does not place an unreasonable burden on the public utility providers.

Mitigation Measures: No negative impacts are expected to occur from the Proposed Action. However, mitigation specific to the buildings finished condition will include the use of low water use fixtures and energy efficient light fixtures. Additionally, the use of a water meter designated for irrigation allows the Sanctuary to apply for a lower rate of charges for this targeted use. If deemed necessary, an on-site fire hydrant will be installed.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative no changes to the infrastructure or site layout would be required.

Mitigation Measures: No mitigation measures would be required.

4.2.3 TOPOGRAPHY

Environmental Consequences of the Proposed Action: Under the Proposed Action approximately 557 m² [6000 ft²] of the topography of the parcel would be directly disturbed and altered. The area that will house the new building and the parking area will be graded to approximately the existing elevation of the center parking lot. A final grading plan has been completed as part of the concept design for the project. This grading plan includes the removal of the existing dune that extends into the parcel along the north property line.

Mitigation Measures: Maui County Ordinance 2684 prohibits the grading or mining of any coastal dune within the shoreline area or frontal dune. On September 4, 2003 a delineation of the dune complex on the HIHWNMS property was conducted, and it was determined that a coastal dune of approximately 45 feet in length with an average width of 3-15 feet was located along the northwest section of where the proposed multi-purpose building will be located. As a result of this finding, HIHWNMS personnel initiated dialogue with Maui County officials with a goal of developing a mitigation plan that would result in issuance of a variance to Ordinance 2684 by Maui County Department of Public Works to NOS. On November 4, 2003, HIHWNMS personnel and Maui County officials met, discussed, and developed a mitigation plan. The mitigation plan calls for NOAA and Maui County to work collaboratively to restore the degraded dune complex on the vacant beach park parcel (Lot 2A) called Ka'ono'ulu Beach and owned by Maui County. This lot is adjacent and immediately north of the HIHWNMS property. NOAA personnel prepared a Memorandum of Agreement (MOA) that defined the responsibilities of each party, and defined the goals of the plan. After reviewing the MOA, Maui County officials agreed that the mitigation for the removal of the frontal dune was acceptable compensation. Following discussion with

legal council, Maui County officials declined to sign the MOA, but agreed in principle to the provisions set forth in the MOA document. Maui County officials encouraged NOAA to exercise their exclusion to local ordinances and thus no variance to the grading ordinance would be required to remove the frontal dune. Prior to and during preparation of this Final EA, NOAA personnel along with Maui County officials have implemented various tasks that were identified in the MOA to restore the dune complex on Ka'ono'ulu Beach. NOAA will continue to implement the provisions of the mitigation plan identified in the MOA.

The mitigation plan provides an opportunity for Maui County to expand its existing environmental programs to preserve, protect, and restore a larger area of coastal dunes than they otherwise would be able to. All parties agree that the coastal dune on the HIHWNMS parcel would not be present had it not been for the dune restoration effort initiated by the Sanctuary during the previous five years. It was also recognized that the proposed dune restoration efforts would not only enhance preservation efforts but would help to correct the placement and buildup of the dunes closer to the shoreline, providing a longer-term solution to the management of the area.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative no changes to the topography of the property would occur.

Mitigation Measures: No mitigation measures would be required.

4.2.4 CLIMATE

Environmental Consequences of the Proposed Action: The Proposed Action would have no impact on the climate.

Mitigation Measures: No mitigation measures would be required.

Environmental Consequences of the No Action Alternative: The No Action Alternative would have no impact on the climate.

Mitigation Measures: No mitigation measures would be required.

4.2.5 SOILS/GEOLOGY

Environmental Consequences of the Proposed Action: The Proposed Action would result in the removal of surface sand substrate. The sand layers located on the proposed building site are not technically soils because they are not weathered but rather depositional sediments. This substrate is located in the top 0.6-1.5 m [2-5 ft] of the areas that will house the building and parking lots. Removal would occur in the area that will house the new building and parking lots, and will not affect soils or geological formations on other portions of the parcel. The removal of the sand will have inconsequential impacts. The new multi-purpose building will be designed and constructed to resist stresses produced by lateral forces, which apply to Seismic Zone 2A.

Mitigation Measures: Soils around the new building, around the parking lot, and in setback zones will have fertilizers and mulch materials added to the existing soil to improve the medium for plant growth. The concentrations of nutrients (e.g., nitrogen and phosphorus) contained in the fertilizers will be low, and it is estimated that there will be no leaching into the ground water below. Mulch material will be comprised of organic materials and does not contain by-products that will leach into the groundwater. The native plants that will be installed are species that do not require high concentrations of soil amendments and/or supplemental watering once they are established.

Environmental Consequences of the No Action Alternative: The No Action Alternative would have no impact on the soils or on the geology of the area.

Mitigation Measures: No mitigation measures would be required.

4.2.6 WATER RESOURCES

Environmental Consequences of the Proposed Action: The Proposed Action would increase impervious areas on the Sanctuary, which will lead to increases in surface runoff generated from rainfall events. It is anticipated that vehicle counts will go up on the site due to the increase in parking stalls and visitor use. A potential impact would be that pollutants from these vehicles would accumulate on the parking surface and mobilize in parking lot runoff. However, the likely increases are expected to be minimal and insignificant. The impacts generated from the Proposed Action to the groundwater aquifer and water quality of Ma'alaea Bay are both insignificant. There would be no impacts to off-site surface water channels or to wetlands in the area.

Mitigation Measures: Mitigation measures will include planned routing of runoff from the new building's roof and the new parking lot. The new multi-purpose building will be fitted with gutters and downspouts that will convey water onto vegetated or open sandy zones along the north side of the building. A flush concrete header is proposed along the south and east sides of the pavement, to facilitate surface flow onto landscaped areas. Gravel trenches will be installed along the east and south edges of the new pavement to increase the rate at which the runoff is absorbed into the ground. The new parking lot will be sloped to the east and north so that runoff will be routed to the vegetation strips bordering the lot. Additionally the low concentration of pollutants that will be derived from vehicles in the parking lot will be delivered to the vegetation strips, which will act as bio-filtration strips and retain a portion of the pollutants. The driveway will be graded with a centerline crown so that water flows laterally off the surface to the side areas containing vegetation and not towards the interior portion of the parcel or towards South Kīhei Road. Additionally, to reduce the overall paved area and improve permeability, 18 stalls will not have asphalt 2' beyond the wheel stops. To the maximum extent possible, all Maui County Planning Department ordinances and codes regarding building and construction activities will be adhered to during construction aspects of implementing the Proposed Action.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative the existing surface runoff regime would continue. As described in Section 3.2.6, water inundates the parking area following heavy rainfall.

Mitigation Measures: No mitigation would be required.

4.2.7 HAZARDOUS WASTE

Environmental Consequences of the Proposed Action: The Proposed Action would not create any hazardous waste or byproducts of hazardous waste. A review of databases and records that contain information on hazardous waste, underground storage tanks, sanitary landfills and other environmental sites was conducted as part of this EA and no sites were found near the Sanctuary.

Mitigation Measures: No mitigation measures would be required.

Environmental Consequences of the No Action Alternative: The No Action Alternative is similar to the Proposed Action with respect to hazardous waste.

Mitigation Measures: No mitigation measures would be required.

4.2.8 CULTURAL RESOURCES

Environmental Consequences of the Proposed Action: Impacts to potential cultural resources from the Proposed Action would be limited to the effects of ground disturbing activities. Under Section 106 of the National Historic Preservation Act (16 USC 470 and 36 CFR 800), Federal agencies (including NOAA) must consider the effects that actions would have on historic properties. As part of Section 106 process, Federal agencies must consult with the Hawai'i State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation.

SHPO was consulted during the preparation of this EA. Given that the location of the property is in a coastal area, located near pre- and post-contact use areas, and that the site contains sand dunes, it is SHPO's position that the subsurface ground may contain cultural resources (Dagher, pers. comm. 2003). It should be noted that the dune that will be removed is feature that formed on and intermittently occupied the site since the later 1940s (see Section 3.2.3). It is inferred that no cultural artifacts dating prior to the late 1940s are located in the dune sand layer from the grade of the parking lot at 1.7 meters [5.5 ft] to the top of the dune. The presence of artifacts below the grade of the parking lot is unknown, however as part of this project three soil borings were made in the vicinity of the dune and no cultural deposits or features were noted in the driller's log. The depth of ground water below the dunes is approximately +0.8 m msl [+2.65 ft] based on the soil boring data. No known archeological or cultural sites have been inventoried or mapped in the specific areas of the proposed multi-purpose building or the parking lot.

Mitigation Measures: An Archeological Monitoring Plan will be prepared by NOAA and submitted to SHPO prior to any ground disturbing activities and in addition to this EA. This plan will likely include the requirement that an archeologist monitor during all grading, excavation, pile installation and other ground disturbing activities. Following further consultation with SHPO by the initiating agency, additional mitigation measures may be developed and included in the Archeological Monitoring Plan.

Environmental Consequences of the No Action Alternative: The No Action Alternative would not have the potential of disturbing cultural resources.

Mitigation Measures: No mitigation measures would be required.

4.2.9 VISUAL RESOURCES

Environmental Consequences of the Proposed Action: The Proposed Action would result in the removal of shrubs and large kiawe trees from along the east property line and southeast section of the parcel. In addition, the two existing storage sheds would be removed, and a sand dune in and along the north property line would be excavated and removed. The new multi-purpose building is presently sited for the area along the north property line. The removal of the kiawe trees, shrubs, buildings and dune will open the site up and allow for increased views into and through the property.

As part of the Proposed Action, native vegetation will be planted on the parcel. These native plants will positively enhance the aesthetic value and view plane of the Sanctuary.

The proposed building was sited to allow for continuance of views through the site from east to west and to open towards the central portion of the Sanctuary grounds. The architectural style of the building is best described as *Kama'āina*. Several of the unique features were incorporated into the design to increase the aesthetic value including: sloping double pitched roofs over a large central room, trellis over the main stair and ramp entrance, articulated railings, a large lanai, and stone veneer cladding at the lower structural building supports. These features along with angles and the finished surface are expected to increase the viewshed of the Sanctuary.

Mitigation Measures: Mitigation measures for the Proposed Action were incorporated into the design of the building and landscaping plan. There are no additional mitigation measures needed.

Environmental Consequences of the No Action Alternative: The No Action Alternative would result in the continuance of views into and across the sites being obscured by kiawe and shrubs along the properties margins.

Mitigation Measures: No mitigation measures would be required.

4.2.10 AIR QUALITY

Environmental Consequences of the Proposed Action: Implementation of the Proposed Action would result in construction activities taking place at the site that may cause temporary and minor impacts to air quality. No long-term or post-construction effects to air quality will likely occur as result of implementing the Proposed Action.

Mitigation Measures: Mitigation to reduce dust levels during construction will include watering with trucks or sprinklers, erection of dust fences, limiting the area of disturbance, and timely grassing of finished areas. To the maximum extent possible, all Maui County Planning Department ordinances and codes regarding building and construction activities will be adhered to during construction aspects of implementing the Proposed Action.

Environmental Consequences of the No Action Alternative: The No Action Alternative will not affect air quality.

Mitigation Measures: No mitigation measures would be required.

4.2.11 NOISE

Environmental Consequences of the Proposed Action: Implementation of the Proposed Action would result in construction activities taking place at the site that will temporarily increase the ambient decibel level generated from the Sanctuary. High decibel levels of upwards of 100 dBA are expected to occur during installation of driven piles into the earth. No long-term or post-construction increase in ambient noise levels is likely to occur as result of implementing the Proposed Action.

Mitigation Measures: For the Proposed Action, the mitigation measures will be limited to addressing noise generated during construction activities. It is recommended that a hydraulic hammer be used to hammer the piles during installation. Additionally a shroud that can be placed over the equipment should be used during pile driving. Pile driving will be limited to the hours between 8:00 a.m. and 5:00 p.m. Monday through Friday.

It is recommended that for the duration of the project construction workers coordinate, to the extent practicable and without extending the construction period, activities that are known to create noise to mid day periods.

Environmental Consequences of the No Action Alternative: The No Action Alternative will result in no long or short impacts to noise levels.

Mitigation Measures: No mitigation measures would be required.

4.2.12 LAND USE

Environmental Consequences of the Proposed Action: Under the Proposed Action, the Interim Park zoning of the site would remain unchanged and the land use at the Sanctuary would not change. The use of government buildings on the site is classified as acceptable. To the maximum extent possible, all Maui County Planning Department ordinances and codes regarding building and construction activities will be adhered to during construction aspects of implementing the Proposed Action.

The finished floor elevation of the building will be slightly higher than the base flood elevation of +3.05 m [+10 ft] msl. Concurrent to the preparation of this EA, the Maui County Planning Department adopted new formulas to calculate the shoreline setback distance. The shoreline was certified during preparation of this Final EA; however the setback distance has not been calculated and submitted to Maui County for approval. Thus, this Final EA does not contain the final shoreline setback distance. In the event the existing building footprint is located within the shoreline setback, NOS will have the building design reconfigured so that no portion of the building falls within the shoreline setback zone.

Mitigation Measures: Mitigation measures for the Proposed Action were incorporated into the design of the building site plan. There are no additional mitigation measures needed.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative the land uses and the layout of the site would remain unchanged.

Mitigation Measures: No mitigation measures would be required.

4.3 BIOLOGICAL

4.3.1 VEGETATION

Environmental Consequences of the Proposed Action: Under the Proposed Action vegetation will be removed from the site. This removal will have insignificant impacts to the overall vegetation community of the area. Native vegetation and plants listed as threatened and endangered were planted as part of a site revegetation project in 2000.

Mitigation Measures: As described in Section 4.2.9, native vegetation will be planted as part of the Proposed Action. The species selected will add to the aesthetics of the site, and aid in stabilizing sand. Plants selected are native to the Kīhei region, are drought tolerant and should not require significant maintenance once established.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative no changes to the species composition or maintenance routine will be made.

Mitigation Measures: No mitigation measures would be required.

4.3.2 WILDLIFE

Environmental Consequences of the Proposed Action: Impacts to native wildlife species that may potentially utilize the Sanctuary parcel are minimal. Presently the terrestrial land base of the Sanctuary has very little habitat value for foraging waterbirds. Certain construction activities, in particular the installation of driven piles, will result in temporary, short-term ground vibrations that have the potential to disturb turtle nesting activities.

Mitigation Measures: Construction activities that have the potential to disturb turtle nesting will be scheduled during non-nesting periods. Per consultation with the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS), turtle nesting may occur during May-September and driven piles will not be installed during this period. In addition, if turtles are observed near the site during construction, USFWS and/or NMFS will be consulted to ensure appropriate actions are taken to eliminate potential impacts.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative, no changes to landscape will occur and wildlife will not be impacted.

Mitigation Measures: No mitigation measures would be required.

4.3.3 FISH

Environmental Consequences of the Proposed Action: Impacts to fish will not occur from implementing the Proposed Action.

Mitigation Measures: No mitigation measures are required for the Proposed Action.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative no changes to landscape will occur and fish will not be impacted.

Mitigation Measures: No mitigation measures would be required.

4.3.4 INSECTS AND DISEASE

Environmental Consequences of the Proposed Action: Under the Proposed Action the level of insects and diseases are not expected to be impacted.

Mitigation Measures: No mitigation measures are required for the Proposed Action.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative there will likely be no changes.

Mitigation Measures: No mitigation measures would be required.

4.4 ECONOMIC FACTORS

4.4.1 ECONOMIC BASE

Environmental Consequences of the Proposed Action: Under the Proposed Action it is anticipated that HIHWNMS will receive more exposure and increased visitation from both off-island visitors and local

residents and that awareness of the whales and marine environment will increase. It is likely that a visit to a new and modern visitor center will lead to more interest and word-of-mouth solicitations. As a result, this will likely lead to increased revenues to businesses that market whale watching ventures and service industry businesses in the area (see Section 3.4.1).

Short term positive economic impacts associated with the Proposed Action include the stimulus from the construction activity and its supporting work force. The building work force is expected to patronize local retail shops and restaurants. Workers from outer-islands will patronize inter-island airlines, as well as lodging establishments while on Maui.

Mitigation Measures: No mitigation measures are required for the Proposed Action.

Environmental Consequences of the No Action Alternative: It is likely that the No Action Alternative has a similar trickle down economic stimulus. However, the facilities in their present configuration may not accommodate all visitors.

Mitigation Measures: No mitigation measures would be required.

4.4.2 EMPLOYMENT/UNEMPLOYMENT

Environmental Consequences of the Proposed Action: Under the Proposed Action it is anticipated that the construction activities will employ a work-force for approximately six months. The number of persons employed for PHASE FOUR – CONSTRUCTION is not known. The hiring of workers for the project will result in the continuation of employment for workers or new positions for those people unemployed. During the construction phase of the project, it is anticipated that workers will frequent local business for food, equipment and general supplies and provisions. This will lead to indirect employment opportunities for persons working at the frequented businesses and supporting industries. The Proposed Action will not increase unemployment levels.

Mitigation Measures: No mitigation measures are required for the Proposed Action.

Environmental Consequences of the No Action Alternative: The No Action Alternative will not change the employment statistics.

Mitigation Measures: No mitigation measures would be required.

4.4.3 INCOME

Environmental Consequences of the Proposed Action: As described in Section 4.4.1, the economy of the Kīhei area is expected to benefit from the implementation of the Proposed Action. Income will be provided for workers involved in the construction of the building, and persons in the supporting service industries of the local area should monetarily benefit from increased business. Long-term employment

and wages for both Sanctuary staff and private sector employees can be expected to be stimulated from the Proposed Action. This project will not have adverse affects to minority or low-income communities.

Mitigation Measures: No mitigation measures are required for the Proposed Action.

Environmental Consequences of the No Action Alternative: No short-term wages derived from construction work will result from the No Action Alternative. The long-term impacts to income are the same as the Proposed Action.

Mitigation Measures: No mitigation measures would be required.

4.4.4 HOUSING

Environmental Consequences of the Proposed Action: Under the Proposed Action it is anticipated that there will be no shifts in housing by the general public or reductions or increases in property values driven by implementing the action. Housing may be required for those construction workers whose primary residence is off-island, or at such a distance from the site that commuting is not practicable. This would be a temporary situation occurring during construction.

Mitigation Measures: No mitigation measures are required for the Proposed Action.

Environmental Consequences of the No Action Alternative: The No Action Alternative will not change housing demography or prices.

Mitigation Measures: No mitigation measures would be required.

4.4.5 PLANS AND PROGRAMS OF OTHER AGENCIES

Environmental Consequences of the Proposed Action: Under the Proposed Alternative a meeting room that can accommodate 101 people will be located in the new multi-purpose building. This will help meet a need that was identified in Kīhei-Makena Community Plan (MCPD 1998) and allow for more public community meetings and gatherings in the region. Additionally, by having a second large building where meetings can take place during normal business hours, staff at the Sanctuary can continue their work in the existing office building without disruptions. Additional facilities will increase the ability of the Sanctuary to provide educational activities in the region.

Mitigation Measures: No mitigation measures are required.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative a room that could accommodate at least 101 people would not be available for either Sanctuary or the community.

Mitigation Measures: No mitigation measures were identified for the No Action Alternative.

4.5 SOCIAL FACTORS

4.5.1 POPULATION DYNAMICS

Environmental Consequences of the Proposed Action: Resident population levels are not likely to be impacted by the Proposed Action. Non-resident visitors may increase because of implementing the Proposed Action.

Mitigation Measures: It is recommended that the Sanctuary conduct visitor counts that can be used for long-term planning on-site as well by Maui County Planning Department.

Environmental Consequences of the No Action Alternative: Impacts to population levels are similar to the Proposed Action for the No Action Alternative.

Mitigation Measures: It is recommended that the Sanctuary conduct visitor counts that can be used for long-term planning on-site as well by Maui County Planning Department.

4.5.2 SOCIAL INSTITUTIONS

Environmental Consequences of the Proposed Action: Under the Proposed Action, it is anticipated that the increase in visitor numbers to the Sanctuary and Kīhei in general may increase demands on public services. This increase is not expected to place an undue demand on education, law enforcement, fire protection and medical services.

Mitigation Measures: Under the Proposed Action mitigation measurements are not required.

Environmental Consequences of the No Action Alternative: The No Action Alternative will not increase demands on public services.

Mitigation Measures: No mitigation measures are required for the No Action Alternative.

4.5.3 SPECIAL CONCERNS

Environmental Consequences of the Proposed Action: The Proposed Action does not impact the cultural, social or physical special concerns as identified in the Kīhei-Makena Community Plan (MCPD 1998). The Proposed Action is compatible with the special concerns.

Mitigation Measures: No mitigation measures are required.

Environmental Consequences of the No Action Alternative: The No Action Alternative will not have significant impact on special concerns.

Mitigation Measures: No mitigation measures are required.

4.5.4 WAYS OF LIFE

Environmental Consequences of the Proposed Action: The Proposed Action is commensurate with the overall way of life by providing an area where people can gather either for social events or for meetings to discuss community concerns. The Proposed Action was in part designed based on the casual way of life that is commonplace in the Kīhei region.

Mitigation Measures: No mitigation measures are required.

Environmental Consequences of the No Action Alternative: The No Action Alternative will not alter the way of life.

Mitigation Measures: No mitigation measures are required.

4.5.5 RECREATIONAL RESOURCES

Environmental Consequences of the Proposed Action: Under the Proposed Action recreational and community activities are expected to increase. Section 3.5.5 describes the existing level of program activities conducted at the Sanctuary. The proposed facility renovations and construction of a new building will increase the Sanctuary's capacity to offer educational programs. The lecture series will be able to accommodate 50-101 persons, an increase over the current level of 40-50 persons, though still requiring two Sanctuary staff or volunteers. While the number of persons per school group session is expected to remain the same (approximately 130 persons, requiring seven Sanctuary staff or volunteers), the number of sessions is expected to increase from two to three sessions per month. Daily visitors are expected to increase from 20 to 50 persons per day in the off-season, and from 48 to 75 persons per day in the peak season. Additional Sanctuary staff time (4-6 Sanctuary staff or volunteers) will be needed to support the increased number of visitors. Existing off-site recreational activities at the beach parks will not be impacted by the Proposed Action. As part of the mitigation plan for the coastal dune grading described in Section 4.2.3, a trail will be installed that will provide public access across the HIHWNMS parcel to Ka'ono'ulu Beach to the north.

Mitigation Measures: No mitigation measures are required for the Proposed Action.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative no changes to ongoing recreational opportunities will occur. However, under this alternative the Sanctuary will not be able to provide a large room for community meetings and recreational activities.

Mitigation Measures: No mitigation measures would be required.

4.5.6 TRANSPORTATION AND PARKING

Environmental Consequences of the Proposed Action: The Proposed Action is expected to have minor short-term impacts to traffic counts along South Kīhei Road during construction activities. Long-term impacts to traffic include increases in vehicle counts as visitation to the Sanctuary is expected to increase. However, visitor arrivals are generally congregated in the midday hours, not during peak local traffic times.

There will be a short-term increase in parking needs resulting from construction activities. In addition, construction equipment and delivery trucks (i.e. carrying construction materials) will need to be accommodated on-site. These activities may reduce the available parking for Sanctuary visitors on a short-term basis.

The new building and parking lot are configured to provide sufficient space for buses and other long vehicles to turn around on-site so that they can exit the driveway driving forward. In the event that some operators of long vehicles are unable to carry out this maneuver and need to back out of the driveway onto South Kīhei Road, a minor disruption to traffic is anticipated. As described in Section 3.5.6, this disruption to traffic is short-term, and to date Sanctuary staff has not received negative feedback from this situation.

Parking at the site will be increased by ten stalls over the current level. This will aid in accommodating visitors and staff. During heavy recreational periods at Kalepolepo Park these additional sites will likely be utilized by beach goers. To date there is no official Memorandum of Understanding between the Sanctuary and Maui County Department of Parks and Recreation addressing the shared parking. It is anticipated that at times there will not be enough parking spaces to accommodate the needs of both the Sanctuary and the beach park.

Mitigation Measures: It is recommended that construction activities begin with site grading. This will provide open parking space for both construction workers and sanctuary staff vehicles. It is recommended that, when possible, ride sharing between workers occur in order to reduce the number of vehicles on-site. To improve the long-term traffic maneuvering and parking situation it is recommended that an access driveway thoroughfare between the Sanctuary and Kalepolepo Park be installed to alleviate multi-point backing up and turning around. A throughfare driveway has been incorporated into the site plans and could be installed without further analysis. This would require the Sanctuary to initiate consultation with the Maui County Department of Parks and Recreation to secure a Memorandum of Understanding (MOU)

Environmental Consequences of the No Action Alternative: The No Action Alternative will have similar impacts from increased visitor traffic counts for the long-term as the Proposed Action. There would be no short-term impacts to traffic due to construction.

Mitigation Measures: No mitigation is required.

4.5.7 ZONING

Environmental Consequences of the Proposed Action: No alterations to current zoning classification are required for the Proposed Action.

Mitigation Measures: No mitigation measures are required.

Environmental Consequences of the No Action Alternative: No alterations to current zoning classification are required for the No Action Alternative.

Mitigation Measures: No mitigation measures would be required.

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5.0 FINDINGS AND NOTICE OF ANTICIPATED DETERMINATION

5.1 SIGNIFICANCE CRITERIA

The Proposed Action is the renovation of existing facilities and the construction of a new on-site multi-purpose building for the Sanctuary to help meet the long-term needs identified in the *Facility Master Plan Report* (API 2000), the *Main Building Alternatives Study* (API 2001), and the *Facilities Requirements Update Report* (API 2002).

The Proposed Action involves site grading, demolition and removal of two existing storage building and the construction of a new multi-purpose building along with connected actions. The Proposed Action would not have any significant and adverse impacts on the environment, therefore an Environmental Impact Statement is not required for the project.

This EA was prepared following guidelines set forth under the National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. 4321 et seq. CEQ Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, as codified at 40 CFR Parts 1500 to 1508 and those issued by the Department of Commerce (DOC) in Department Administrative Order (DAO) 216-6, Implementing the National Environmental Policy Act directives were also used to determine if issues identified during this EA were “Significant”.

Based on the “Significant Criteria”, listed in Section 12 of Hawai‘i Administrative Rules Title 11, Chapter 200, an applicant or agency must determine whether an action may have a significant impact on the environment, including all phases of the project, its expected consequences both primary and secondary, its cumulative impact with other projects, and its short and long-term impacts. In making the determination, the “Significant Criteria” Rules established are employed as the basis for identifying whether the proposed project has significant environmental impacts. Based on these rules the following conclusions are reached:

The proposed project would not result in irrevocable commitment to loss or destruction of any natural or cultural resources.

The proposed project will be implemented on the NOS Kīhei Sanctuary headquarters property. No significant natural resources are present at the project site. No known cultural or historical resources would be impacted.

The proposed project would not curtail the range of beneficial uses of the environment.

The proposed project will not curtail beneficial uses of the site and the surrounding area. The uses that currently exist on the site will be benefited and enhanced by the Proposed Action.

The Proposed Action does not conflict with the State's long-term environmental policies or goals and guidelines and is commensurate with Federal NEPA requirements.

The State policies as set forth in Chapter 344; Hawai'i Revised Statutes espouse conservation of natural resources, and enhancement of the quality of life. The project is in line with these policies and enhances the goal of enhancing quality of life by providing educational opportunities for both State residents as well as tourist visitors. The Council on Environmental Quality envisioned that the NEPA process would aid in project planning and identify any potential significant impacts derived from a project. The Proposed Action was assessed by this EA in the early planning stages of the project, which aided in reducing potential for significant impacts.

The economic or social welfare of the community and/or State will be positively impacted.

The Proposed Action will result in short-term employment opportunities during the construction phase of the project as well as provide for continued employment opportunities for Sanctuary staff. The direct and indirect economic inputs of the project will benefit both local and State wide businesses.

No substantial secondary impacts, such as population changes or affects on public facilities, are anticipated.

The project is not expected to increase the local population and will result in only minor increases to demands on public utilities.

No substantial degradation of environmental quality is anticipated.

The Proposed Action will not adversely impact the overall environmental quality of the area.

The Proposed Action does not involve a commitment to larger actions, nor would cumulative impacts result in considerable effects on the environment.

Negative long-term cumulative effects of implementing the Proposed Action are expected to be minimal. Most areas along the Kīhei coastline have been impacted by human development and the new building would be located within an already developed site. There are no foreseeable future actions associated with the Sanctuary's long-term plans that would conflict or increase the level of impacts from the Proposed Action. The Proposed Action would result in the positive long-term impact of providing a building that contains offices and workspace for Sanctuary operations as well as a meeting center for the community.

No rare, threatened or endangered species or their habitats would be affected.

No known endangered, threatened or candidate flora or fauna species are present at the specific site where ground-disturbing activities will occur, or may be affected by the Proposed Action.

Air quality, water quality or ambient noise levels would not be detrimentally affected.

The proposed project will not adversely affect air or water quality. It also will not generate solid wastes or produce emissions that will have significant impacts on the public health or the environment. Short-term impacts from construction activity include increased noise levels, dust and exhaust from construction

machinery, which will be mitigated by to the maximum extent possible by implementation of construction Best Management Practices set forth by the Maui County Planning Department.

The project does not substantially affect scenic vistas and view plains in the County or State plans and studies.

Construction equipment such as the pile-driving rig will only occupy the site during the pile installation phase of the project. The view of the equipment from off site will be obstructed somewhat by the vegetation that surrounds the site. After completion of the multi-purpose building and installation of landscaping features, it is anticipated that the scenic and aesthetical quality of the site will be enhanced.

5.2 NOTICE OF ANTICIPATED DETERMINATION

On the basis of the foregoing information, it is anticipated that the Proposed Action would not have significant impacts on the environment. As such, a notice of anticipated determination of Finding of No Significant Impact for the proposed project is appropriate.

5.3 REASONS SUPPORTING THE ANTICIPATED DETERMINATION

The nature and scale of the proposed project are such that no significant environmental effects are anticipated. A few negative impacts, which have been identified in this Environmental Assessment, can be mitigated or minimized through sensitive site planning and engineering design, implementation of careful construction methods and compliance with governmental requirements.

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6.0 LIST OF NECESSARY PERMITS AND APPROVALS

The following permits and approvals are required prior to any construction activities.

Coastal Zone Management

Federal Consistency Determination

Administered by State of Hawai'i, Department of Business, Economic Development and Tourism

Section 106 Review

Historic Preservation Act

Administered by State of Hawai'i, Department of Land and Natural Resources, Historic Preservation Division

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APPENDIX A. COMMENTS AND RESPONSES TO DRAFT EA

A Draft Environmental Assessment was prepared and released to the public and government agencies on May 7, 2003. Following this release, written comments were received during a thirty day period from May 8 – April 7 2003. The written comments received during this period and the responses prepared by the KFP Responsible Program Manager and Maui County Liaison are provided herein.

